Finland/2014

Project title	Contact	Institution - lead	Institution - oth	Country - Lead	Country - other	Project leader	Other participar	Project Period	Investigated are	Description/abstract
Orhelia	Dr. Florian Stammler (florian.stammler@ulaplad.fi)	Arctic Centre, University of Lapland	Association of the Nenets people "Yasavey" and the Eruopean University in St. Petersburg	Finland	Russia	Dr. Florian Stammler		2011-2015	Russian North, Finnish Lapland	The acronym Orhelia translates as “Oral History of Empires by Elders in the Arctic” with the subtitle “A comparative history of the relations between states/ Empires and their subjects in their northernmost peripheries”. Preliminary research has already started and a short experience report from the first field trip is available at the Arctic Anthropology Blog. The Orhelia project develops a comparative history of relations between remote people and states in the eyes of Arctic indigenous elders, by using the method of life history analysis and oral history fieldwork combined with anthropological participant observation. Doing so, the project will also contribute to preserve incorporeal cultural heritage among Uralic speaking northern minorities of Europe and study the transmission of historical heritage between different generations. (http://www.arcticcentre.org/orhelia)
Rises	Dr. Bruce Forbes (bruce.forbes@ulapland.fi)	Arctic Centre, University of Lapland	University of Eastern Finland	Finland		Dr. Bruce Forbes		2012-2016	Russian North, Finnish Lapland	RISES (Resilience in Social-Ecological Systems of Northwest Eurasia) will reconstruct the environmental histories of integrated social-ecological systems in Fennoscandia and Yamal, West Siberia that have been characterized by both climate change and the constant adaptation of people and their reindeer herds through the late Holocene.Intensive study areas for collecting experimental (quantitative) and descriptive (qualitative) data are selected for two bioclimatic zones, near and beyond treeline, in each region. The project will link indigenous (Sámi and Nenets) oral histories with archaeology, palaeoecology and modern ecological and climate studies for a holistic explanation of stable states. (http://www.arcticcentre.org/rises)
Barents Studies	Dr. Monica Tennberg (monica.tennberg@ulapland.fi)	Arctic Centre, University of Lapland	The Luzin Institute for Economic Studies of the Kola Science Centre of the Russian Academy of Sciences (Russia), The Barents Institute at the University of Tromsø (Norway)	Finland	Russia, Norway	Dr. Monica Tennberg		2013-2014	Barents Region	The purpose of this project is to develop an international academic publication, Barents Studies: Peoples, Economies and Politics. The journal will provide scientific knowledge and latest research news related to developmental processes within the Barents Euro-Arctic Region. The project aims to promote research co-operation and popularization of research results in the Barents Region by sharing topical scientific news through the new journal. At the same time the purpose is to expand the understanding of the Barents Region in global, social, political and economic context. (http://www.barentsinfo.org/barentsstudies)
Testing improvement processes of Finnish environmental impact assessment and the modes for application in Arctic Regions of Finland and Russia	Dr. Timo Koivurova (timo.koivurova@ulapland.fi)	Arctic Centre, University of Lapland	Several tourist businesses and development offices in Finland	Finland	Russia	Dr. Timo Koivurova		2013-2014	Russian North, Finnish Lapland	The aim of the project is to provide Finnish companies with good practices and free access to an online information service that includes information about environmental legislation, rules, contact persons/institutions in Finland and in Russia; and, therefore, enhance high environmental standards and business opportunities in the Arctic Russia and Finland. The main output of the project is bridging the gaps in knowledge on business needs and opportunities for Finnish companies and their working surroundings in the environmental impact assessment activities in Lapland and in the Arctic Russia and beyond. (http://www.arcticcentre.org/InEnglish/RESEARCH/The-Northern-Institute-for-Environmental-and-Minority-Law/Research-projects---NIEM/Improving-Finnish-EIA-in-Finland-and-Russia)
Oulanka trout	Timo P. Karjalainen (timo.p.karjalainen@oulu.fi)	Metsähallitus, Finland	Finnish Game and Fisheries Research Institute, Russian Fisheries Research Institute (Venäjän Pohjoinen kalantutkimuslaitos) and Thule Institute, University of Oulu.	Finland	Russia	Timo P. Karjalainen			Oulanka river,Paanajärvi	The populations of migratory trout preserving their genetic uniqueness, which inhabit in the basin of Oulanka river, become rare. This decrease in the number of Oulanka trout is worrisome during last decades. On the one hand, the conditions of spawning and survival of young fish in the river basin on the Finnish side, on the other hand, the opportunity for young fish grow to the size of the reproduction in the lakes on the Russian side are influenced on the situation. A joint effort of Russia and Finland is needed to achieve the growth of trout populations and make it more resilient to recreational fishing. Achieving these goals involves gathering relevant data on population size, characteristics of trout migration, importance for the tourism industry in the region, and attraction for the fishermen. (www.oulangantaimen.fi)
Hydrology of boreal ecosystems in modified and pristine landscapes of eastern Fennoscandia and NW Russia	Riku Paavola (riku.paavola@oulu.fi)	University of Oulu		Finland	Russia	Prof. Björn Klöve			Kuusamo, Finland, Paanajärvi, Russia	

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EU7PW; ArcRisk project - Arctic Health Risks: Impacts on health in the Arctic and Europe owing to climate-induced changes in contaminant cycling, WP health	Arja Rautio (arja.rautio@oulu.fi)	WP health leader (Rautio, Finland),	Russia (Chaschin as a partner, SZNC, Northwest Public Health Research Center (Russian Ministry of Health and Sciences)	Norway				2009-2014		The ArcRisk project has investigated the linkages between environmental contaminants, climate change and human health and is aimed to support the European policy development within these fields. (http://www.arcrisk.eu)
EU-Kolarctic-ENPI;	Arja Rautio (arja.rautio@oulu.fi)	FRAM		Norway	Russia, Finland			2012-2014		The Programme Kolarctic ENPI CBC is one of the ENPI financing instruments of the European Union. The ENPI programmes are being implemented on the external borders of the EU. (http://www.kolarcticenpi.info/en)
Unraveling population history, demography and structure for management of northern populations: Molecular ecology meets population biology	Laura Kvist (laura.kvist@oulu.fi)	University of Oulu, Department of Biology, Thule Institute	University of Moscow, (Russia), Institute of Ecology and Evolution of Russian Academy of Sciences (Moscow, Russia)	Finland		Laura Kvist	Veli-Matti Pakanen, Hilde Hens, Veli-Matti Kangas, Suvi Ponnikas, Nelli Rönkä, Jouni Aspi, Anne Jäkäläniemi, Kari Koivula, Markku Orell, Pavel Tomkovich, Marina Kholodova	2013-2016		The genetic makeup of fauna and flora in the boreal region has been influenced by repeated distributional shifts through Pleistocene glaciations, but also by human activities causing habitat fragmentation and loss and global warming at more recent times. In addition, intraspecific demography has a large effect on the genetic variation of a species, including complex interactions between for example dispersal, breeding system, generation length, reproduction and survival. This project combines molecular ecology with long-term life-history and demographic data to increase basic knowledge on impacts of different genetic mechanisms in colonisations, dispersal, reproduction, survival and recoveries from population crashes in northern wild and often endangered populations. Research is focused on both species-specific and common processes in northern Finland. Main objectives of the project are to reveal post-glacial and recent colonization histories, to find the main life-history parameters affecting to present genetic structure, to define population genetic patterns, to determine population sizes, and to find means for conservation management. (http://www.oulu.fi/thule/northern_populations)
Rapid environmental changes in the Eurasian Arctic – Lessons from the past to the future (REAL)	Kari Strand (kari.strand@oulu.fi); Juha Pekka Lunkka (juha.pekka.lunkka@oulu.fi)	Thule Institute, University of Oulu; Institute of Geosciences, University of Oulu	Department of Geography, Lomonosov Moscow State University (Russia), Department of Geology, University of Tromsø (Norway), Geological Survey of Finland, Department of Geosciences, University of Oregon (USA), Department of Geography, University of Cambridge (UK), Department of Geology and Geochemistry, University of Stockholm, (Sweden)	Finland		Kari Strand	Prof. Nikolay S. Kasimov, Juho Junttila, Juha Köykkä, Antti Pasanen, Ninna Immonen, Ekaterina Kaparulina	2013-2016	Sedimentary studies in Eurasian and Fennoscandian	This project's aim is to produce information on the rate of natural environmental changes and extreme events and their mechanisms. This information is highly relevant when predicting the future development of climate and environmental change in the Arctic. The specific research questions are: 1) how fast environments changed in Fennoscandia and in northern Russian Eurasia and 2) what were the main reasons of the natural environmental changes during the past 130 000 years. The particular aim is to study relatively fast climatic and environmental transitions that caused hydrological changes including changes in sea level, glacial ice extent and volume, drainage basins and ocean currents during that period of time. Study of glacial Arctic for ice-sheet collapses, transitions/terminations is now extremely important under the present global warming scenario. Main objectives of the project are to produce information on the rate of natural environmental changes and extreme events and their mechanisms,to study how fast environments changed in Fennoscandia and in northern Russian Eurasia,to study what were the main reasons of the natural environmental changes during the past 130 000 years, to study relatively fast climatic and environmental transitions that caused hydrological changes including changes in sea level, ice extent and volume, drainage basins and ocean currents during that period of time. (http://www.oulu.fi/thuleinstitute/real)
Indexing transitions in ice-sheet decay in the Eurasian Arctic marine and land record (ICE)	Kari Strand (kari.strand@oulu.fi)	Thule Institute, University of Oulu	VNII Okeangeologia, St. Petersburg (Russia), Herzen State Pedagogical University of Russia (St. Petersburg, Russia)	Finland	Russia	Kari Strand	Dr. Alexey Krylov, Dr. Dimitry Subeto	2013-2017	paleoclimatic studies: Arctic Ocean - Barents Sea - Eurasian	This proposed research aims to produce indexed information on the transition between two natural environmental extremes; glacial and interglacial. This information is highly relevant when predicting the future development of climate and environmental change in the Eurasian North. The research focuses on two distinct transitions in decay of ice-sheet (Late Saalian-Eemian; Marine Isotopic Stage MIS6-5e and Late Glacial-Holocene; MIS2-1) from Eurasian Arctic marine as well as terrestrial record. This project will be part of a wider scientific venture through the International Arctic Science Committee endorsed new international network programme PAST Gateways (Palaeo-Arctic Spatial and Temporal Gateways). This project will use geochemical and modern isotopic research methods in studying sediment cores and samples as well as palaeoecological data will be collected in order reconstruct then common indexed knowledge of transitions during decay of Northern Hemisphere ice sheets.

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European-Russian Centre for cooperation in the Arctic and Sub-Arctic environmental and climate research	Leonid Bobylev (leonid.bobylev@nier sc.spb.ru); Contact in Finland: Timo Vihma (timo.vihma@fmi.fi)	Nansen International Environmental and Remote Sensing Centre	Finnish Meteorological Institute and several other European institutes	Russia	Finland, Austria, France, Sweden, UK, Germany, Norway	Leonid Bobylev	Timo Vihma, Matti Leppäranta, and others	1.5.2012-30.4.2015	All Arctic	The general objective of the project is to use the Nansen International Environmental and Remote Sensing Centre (NIERSC) established in St. Petersburg by Russia, Norway and Germany, as the joint research facility to extend, consolidate and strengthen scientific cooperation between researchers from the EU Member States and Associated Countries with those from Russia through the joint studies of climate and environmental changes in the Arctic and Sub-Arctic in the 21st century and their socio-economic impact. NIERSC research facilities, enhanced and expanded in the frame of the project, will be opened to the researchers from other Member States, specifically from Austria, Finland, France, Sweden and UK, additionally to researchers from Germany, Norway and Russia, founders of NIERSC. Increasing and extending scientific cooperation between researchers from the Member States and Associated Countries with Russian researchers will be organized through involvement of additional researchers in the NIERSC ongoing projects and preparation of new future joint scientific projects in the area of environmental and climate research in the Arctic and Sub-Arctic including socio-economic issues via organization of joint scientific workshops and seminars. Since 1992 NIERSC has built a wide network with Russian research institutions, universities and governmental agencies which will serve in the future for further enhancement of European-Russian cooperation in proposed research area far beyond the completion of EuRuCAS. To sustain this cooperation in the future, young generation of researchers will be greatly involved in the project through research periods at NIERSC and organizing Summer School with the focus on environmental and climate research in the Arctic and Sub-Arctic including socio-economic impact. Within EuRuCAS implementation the ways for opening NIERSC institutional arrangements for new members from EU Member States and/or Associated Countries will be defined.
Changing Arctic Climate System: Interaction of Stratosphere, Troposphere, and Sea Ice	Timo Vihma (timo.vihma@fmi.fi)	Finnish Meteorological Institute		Finland	collaborators from the USA, Germany, Norway, Sweden, UK, Russia, and Estonia.	Timo Vihma		1.9.2012 - 31.8.2016	All Arctic	The objectives of the project are to better understand and quantify the following: 1. How stratosphere affects the Earth surface climate and tropospheric large-scale circulation and cyclones? 2. How large-scale circulation and cyclones affect the atmospheric moisture budget, clouds, precipitation, and the ABL? 3. How clouds, precipitation, and ABL interact with sea ice? The objectives address both the present-day climate and the projected climate in the end of 21st century. In the process understanding, the focus is on sea areas north of 70°N, but the analyses of large-scale circulation and climate change will also address land areas in that region. To meet Objective 1, the project team will carry out the following work: • Validation of climate models focusing on stratospheric influence in present-day Arctic climate simulations • Estimation of stratospheric role in future Arctic climate change: statistical analysis of climate model projections • Estimation of stratospheric role in Arctic climate change: sensitivity experiments with ECHAM5 model The work will be based on analysis of the CMIP5 future climate scenarios and sensitivity experiments applying ECHAM5 model with a full stratosphere and with a simplified one. To meet Objective 2, the project team will analyse the following: • Links between atmospheric large-scale circulation and cyclones • Cyclone effects on atmospheric moisture budget • Effects of cyclones on the ABL, clouds and precipitation The work will be based on several atmospheric reanalysis, satellite and rawinsonde sounding data, coastal cloud radar data, ship and aircraft expeditions in the central Arctic and, for future climate, CMIP5 products. To meet Objective 3, the work will carry out: • Statistical and process studies on effects of ABL, clouds, and precipitation on sea ice • Statistical studies on effects of the state of the sea surface on ABL, clouds, and precipitation The work will be based on ship, aircraft, cloud radar, and satellite data; atmospheric reanalyses; new model experiments; and, for the future conditions, CMIP5 products.
Greenhouse gas, aerosol and albedo variations in the changing Arctic	Yrjö Viisanen (yrjo.viisanen@fmi.fi)	Finnish Meteorological Institute	AARI, MGO, NOAA	Finland	Russia, USA	YrjöViisanen		2014 - 2017	Tiksi, Siberai	Terrestrial and marine emissions of methane and estimate temperature and hydrological responses of methane emissions from tundra will be quantified. Aerosol sources and climate feedbacks as well as their effects on the radiative forcing will be studied. Radiative forcing of GHG emissions, aerosols and albedo change will be compared.

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DEFROST- Impacts of a changing cryosphere: depicting ecosystem-climate feedbacks from permafrost, snow and ice, Nordic Centre of Excellence	FMI: Tuomas Laurila (tuomas.laurila@fmi.fi); UH: Timo Vesala (timo.vesala@helsinki.fi)	Lund University	Finnish Meteorological Institute, Lund University, University of Helsinki, University of Eastern Finland, Stockholm University, The University Centre in Svalbard UNIS, Swedish Meterorological and Hydrological Institute, AarhusUniversity, Greenland Institute of Natural Resources, Danish Meteorological Institute	Sweden	All Nordic	Torben R. Christensen		2011-2016	Arctic	DEFROST is part of the Top-level Research Initiative (TRI), aiming to strengthen research and innovation regarding climate change issues in the Nordic Region as one of the three Nordic Centres of Excellence that are funded within the sub-programme "Interactions between climate change and the cryosphere".The aim of DEFROST is to understand how climate change induced changes in the cryosphere influence the ecosystem/geosphere processes which directly affect climate. We will focus on key terrestrial, lacustrine and marine cryospheric components that have the potential for giving rise to substantial changes in climate feedback mechanisms both in terms of surface-atmosphere energy exchange and exchanges of greenhouse gases. DEFROST seeks to bridge existing gaps between climate modeling, cryospheric science, and Arctic ecosystem science. (http://www.ncoe-defrost.org)
PAGE21 CHANGING PERMAFROST IN THE ARCTIC AND ITS GLOBAL EFFECTS IN THE 21ST CENTURY, FP7 research project	FMI: Tuomas Laurila (tuomas.laurila@fmi.fi)	Alfred Wegener Institute	Consortium comprises the most elite and experienced European and Russian permafrost researchers, together with eminent scientists from Canada, the USA, and Japan. It brings together 19 institutions and small enterprises from 11 different countries, and a large number of international partners in Canada, the USA, and Japan	Germany	All Arctic	Hans-Wolfgang Hubberten	In Finland also University of Eastern Finland	2011-2015	Arctic	PAGE21 will aim to understand and quantify the vulnerability of permafrost environments to a changing global climate, and to investigate the feedback mechanisms associated with increasing greenhouse gas emissions from permafrost zones. This research will make use of a unique set of Arctic permafrost investigations performed at stations that span the full range of Arctic bioclimatic zones. The project will bring together the best European permafrost researchers and eminent scientists from Canada, Russia, the USA, and Japan. The PAGE21 is a Large-scale integrating collaborative project under the ENV call topic "Vulnerability of Arctic permafrost to climate change and implications for global GHG emissions and future climate" (ENV.2011.1.1.3-1). (www.page21.org)
Integrated Carbon Observing System	FMI: Sanna Sorvari (sanna.sorvari@fmi.fi)	ICOS European infrastructure will start 2014. Before that UH and FMI	Many, see web page	Finland	Many, see web page	ICOS Director Werner Kutsch	In Finland participants: Finnish Meteorological Institute, University of Helsinki, University of Eastern Finland	Preparatory phase many years ago, ESFRI starts 2014	Europe, including European Arctic	Integrated Carbon Observation System (ICOS) is a European Research Infrastructure for quantifying and understanding of the greenhouse gas balance of the European continent and of adjacent regions. The preparatory phase of ICOS started in 2008. The operational phase will start in 2013 and continues until 2031. ICOS-EU head office will be located in Finland and hosted together with France. The mission of ICOS is to provide the long-term atmospheric and flux observations required to understand the present state and predict future behaviour of the global carbon cycle and greenhouse gas emissions to monitor and assess the effectiveness of carbon sequestration or greenhouse gases emission reduction activities on global atmospheric composition levels, including attribution of sources and sinks by region and sector set new standards for research instrumentation, measuring protocols and data processing. ICOS consists of national measuring stations, thematic centres focused on different aspects of atmospheric, ecosystem and aquatic studies and the top level organisation, ICOS-EU, which is coordinating the infrastructure. (http://eng.icos-infrastructure.fi)
ENVIMINE, Kolarctic ENPI CBC program	Ulpu Väisänen (ulpu.vaisanen@gtk.fi)	Geological Survey of Finland, Northern Finland Office	Mining Institute MI KSC RAS; Luleå University of Technology LTU	Finland	Russia, Sweden	Ulpu Väisänen, GTK		03.04.2012-31.12.2014	Kemi mine, Finland Laver mine, Sweden Umbozero mine, Russia	The project of environmental impacts of mining will develop innovative and environmentally safe methods for mine closure in the Barents region and cooperation in mining environmental studies. The project will produce updated database of the study areas and recommendations for after-care plans of closed mines with environmental monitoring.

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ABCGheritage, Kolarctic ENPI CBC program	Peter Johansson (peter.johansson@gtk.fi)	Metsähallitus - Natural Heritage Services Lapland	GTK, ELY-Lapland. NORWAY: Bioforsk Svanhovd, County Governor of Finnmark, Finnmark County Authority, Nordland Research Institute. RUSSIA: Geological Institute KSC RAS, Lapland State Natural Biosphere Reserve, Pasvik State Nature Reserve	Finland	Norway, Russia	Riina Tervo, Metsähallitus		22.03.2012-31.12.2014	East Lapland and Norway, Kola Peninsula	The project increases awareness of the natural and cultural heritage values common to East Lapland and Norway and Kola Peninsula. The project creates e.g. exhibitions, educational material for schools, maps, demonstrative sites, nature trails and mobile guidance services based on gps. The aims are also to set up permanent networks of environmental education, nature protection and sustainable nature tourism.
Children and Youth at Risk in the Barents region	Women's and Gender Studies Faculty of Education P.O. BOX 2000 FI-90014 University of Oulu	Regional Office for Children, Youth and Family Affairs, Northern Norway (Bufetat region nord)	Government of the Arkhangelsk region Government of the Murmansk region University of Oulu Regionförbundet Västerbottens län Government of the Republic of Karelia	Norway	Finland, Russia, Sweden	Regional Office for Children, Youth and Family Affairs, Northern Norway (Bufetat region nord)	Government of the Arkhangelsk region Government of the Murmansk region University of Oulu Regionförbundet Västerbottens län Government of the Republic of Karelia	2012-2014	Barents region	The purpose of the CYAR programme is to increase co-operation efforts aiming to improve life conditions for the most vulnerable group of the child population in the Barents region.