

Projects in the Fram Centre Flagships for 2013

Research areas/Project titles	Project leader	Participating institutions	Flagship	E-mail project leader
Effects of climate change on sea and coastal ecology in the north (Fjord and Coast)				
<i>Physical-biological coupling: Oceanography and habitat use by predators and their prey</i>				
Impact of harbour seal predation on Tana salmon	Martin Svenning	NINA, NIKU, IMR	Fjord and Coast	Martin.svenning@nina.no
Anadromous Arctic charr in Northern-Norway – migration, habitat use and effects of climate change.	Guttorm Christensen	ApN, NIVA, VI, UiT	Fjord and Coast	kari.norheim@vetinst.no guttorm.christensen@akvaplan.niva.no
Atlantic salmon; an interdisciplinary approach, combining natural and social science, to improve the management of salmon sea-fisheries in northern coastal areas	Martin Svenning	NINA, NIKU, UiT, IMR	Fjord and Coast	martin.svenning@nina.no
Drift of fish larvae, fish-stock interactions and their effect on seabird dynamics	Kjell Einar Erikstad	NINA, IMR	Fjord and Coast	kjell.e.erikstad@nina.no
Seabird habitat use and migration strategies	Børge Moe	NINA, NPI	Fjord and Coast	borge.moe@nina.no
A coastal, ice-associated arctic whale in a changing climate	Christian Lydersen	NPI, UiT, NVH	Fjord and Coast	Christian.lydersen@npolar.no
<i>Structure, function and change in Arctic and boreal fjord ecosystems</i>				
Habitat structure and ecosystem function of eel grass (<i>Zostera marina</i>) meadows in the high north in relation to human traditional use and exploitation	Hartvig Christie	ApN, NIVA, UiT, IMR, Norut	Fjord and Coast	Hartvig.christie@niva.no

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Marine base maps for the Porsanger fjord	Aivo Lepland	NGU	Fjord and Coast	Aivo.Lepland@NGU.NO
Benthic biodiversity and ecosystem function in Svalbard and North Norway	Sabine Cochrane	ApN, NINA	Fjord and Coast	sc@akvaplan.niva.no
Reduced sea urchin grazing-effect of climate change or predator change?	Hartvig Christie	NIVA, ApN, IMR, HiFi	Fjord and Coast	hartvig.christie@niva.no
Ecosystem structure and use of marine resources from bivalve and fish bone proxies: A combined natural and social science perspective	Michael Carroll	ApN, NIKU	Fjord and Coast	mlc@akvaplan.niva.no
Trophic interactions in pelagic ecosystems	Tove M. Gabrielsen	UNIS, NPI, ApN	Fjord and Coast	tove.gabrielsen@unis.no
Pelagic ecosystems in ice-covered and ice-free fjords under climate change	Claudia Halsband	ApN, UiT, UNIS	Fjord and Coast	clh@akvaplan.niva.no
Sea ice in the Arctic Ocean, Technology and Systems of Agreements				
<i>Sea ice, ecosystems and models</i>				
CASPER: Characterization of Arctic sea ice properties from remote sensing observations	Torbjørn Eltoft	UiT, NPI, Norut, Met.no, Kongsberg	Arctic Ocean	torbjorn.eltoft@uit.no
ATWAIN: Long-term variability and trends in the Atlantic water inflow region	Vladimir Pavlov Randi Ingvaldsen	NPI, IMR, UNIS, UiT	Arctic Ocean	vladimir.pavlov@npolar.no randi.ingvaldsen@imr.no
Modeling of ice, ocean and ecology of the Arctic ocean	Ole-Anders Nøst	ApN, IMR, NPI, SINTEF, Met.no	Arctic Ocean	ole.anders.nost@npolar.no
<i>Driving forces and development of new industry</i>				
Arctic futures: Future of the Arctic in light of socio-economic and political aspects of climate change	Peter Arbo	UiT, NORUT, NPI, NOFIMA	Arctic Ocean	peter.arbo@uit.no
Key factors for increased use of the Northern Shipping Route	Eirik Mikkelsen	NORUT, FNI, ApN	Arctic Ocean	Eirik.Mikkelsen@norut.no
<i>Environmental impact of shipping</i>				
Introduction of marine invasive species - ballast water and biofouling	Anders Jelmert	IMR, UiT, NIVA	Arctic Ocean	anders.jelmert@imr.no

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FEARICE: Fate, Effect and Risk modeling of accidental oil spill in the sea ice ecosystem	Lionel Camus	ApN, Norut, NPI, SINTEF UNIS	Arctic Ocean	lionel.camus@akvaplan.niva.no
<i>Regimes for sustainable management</i>				
A-LEX: Regulating Arctic Shipping - Political, technological and environmental challenges	Tore Henriksen	UiT, MarinTek, ApN	Arctic Ocean	tore.henriksen@uit.no
Ocean acidification and ecosystem effects in northern waters (Ocean acidification)				
<i>Understanding the physical and chemical mechanisms controlling ocean acidification in Arctic waters – past, present and future</i>				
Establishing the Current Status of ocean acidification in the Norwegian Arctic - OA ^{state}	Agneta Fransson Kai Sørensen	NPI, NIVA, HI, UNIS	Ocean acidification	agneta.fransson@npolar.no kai.sorensen@niva.no
The role of Sea Ice processes on Calcium Carbonate saturation levels – SICCA	Agneta Fransson / Melissa Chierici	NPI, HI, NIVA, UNIS	Ocean acidification	agneta.fransson@npolar.no Melissa.Chierici@imr.no
<i>Ocean acidification effects on key components of the Arctic marine ecosystem</i>				
Effects of OA and temperature on viral stages of Arctic vs. boreal zooplankton species	Haakon Hop Howard Browman	NPI, IMR, ApN	Ocean acidification	haakon.hop@npolar.no howardb@imr.no
Effects of Ocean acidification on the reproduction of the reef building cold water coral <i>Lophelia pertusa</i> : Effects from OA on important cold-water coral reef inhabitants – how to measure health	Johanna Järnegren	NINA, SINTEF, UiT	Ocean acidification	johanna.jarnegren@nina.no
<i>Socio-economics of ocean acidification</i>				
Economic value and Ocean acidification	Claire Armstrong Eirik Mikkelsen	UiT, NIVA, Norut, NINA	Ocean acidification	claire.armstrong@uit.no Eirik.Mikkelsen@norut.no

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Effects of climate change on terrestrial ecosystems, landscapes, society and indigenous peoples (Terrestrial)				
<i>Vegetation state change and herbivore management</i>				
NCoE-Tundra: Herbivore effects on tundra overgrowth, management and environmental gains	Jane Uhd Jepsen	NINA, UiT	Terrestrial	jane.jepsen@nina.no
<i>Ecosystem effects of extreme climate events and changing seasons</i>				
WINNIT – effects of extreme weather and long distance pollution on plant societies	Jarle W. Bjerke	NINA, Bioforsk, UiT	Terrestrial	jarle.werner.bjerke@nina.no
EWVA: Winter climate and effects of extreme warm weather on vegetation in northern ecosystems	Jarle W. Bjerke	NINA, Norut, Bioforsk, UiT	Terrestrial	jarle.werner.bjerke@nina.no
Climate changes and archaeological deposits	Elin R. Myrvoll	NIKU, Bioforsk, UiT	Terrestrial	elin.myrvoll@niku.no
<i>Capacity for adaptation in indigenous people and local societies</i>				
Adaptive capacity – climate adaptation in agriculture in North-Norway	Helene Amundsen	CICERO, UiT	Terrestrial	helene.amundsen@cicero.uio.no
Local communities – changes in user strategies among indigenous peoples	Astrid Ogilvie	CICERO, NIKU, NINA, Norut	Terrestrial	astrid.ogilvie@cicero.uio.no
Sami Reindeer – social processes	Marius Warg Næss	CICERO, NINA	Terrestrial	m.w.nass@cicero.uio.no
<i>Adaptive management of ecosystem services</i>				
GOOSEHUNT: Reducing damage to agriculture by migratory geese by means of population control by hunting	Ingunn Tombre	NINA, NIKU	Terrestrial	ingunn.tombre@nina.no

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MIGRAPOP: (Adaptive management of migratory populations: North-Norway, Svalbard and the European continent)	Ingunn Tombre	NINA, NIKU, Bioforsk	Terrestrial	ingunn.tombre@nina.no
TundrES – local users` preferences	Vera Hausner	UiT, NINA, NIKU	Terrestrial	vera.hausner@uit.no
<i>Observation systems for climate effects</i>				
COAT: Climate-ecological-Observatory-for-Arctic-Tundra	Rolf Ims	UiT, NINA, NPI, UNIS, Met.no	Terrestrial	rolf.ims@uit.no
Remote water quality – observation systems in northern limnic ecosystems	Karl Øystein Gjelland	NINA, UiT, Bioforsk, ApN	Terrestrial	karl.gjelland@nina.no
Hazardous substances – effects on ecosystems and human health (Hazardous substances)				
<i>The effects of contaminants and climate change on human health, indigenous peoples and Arctic communities</i>				
Mixtures and metabolic syndrome	Torkjel Sandanger	UiT, NILU	Hazardous substances	Torkjel.Sandanger@nilu.no / torkjel.sandanger@uit.no
Development of HPC methodology	Nicholas Warner	NILU, UiT	Hazardous substances	Nicholas.Warner@nilu.no
ARCRISK - Time trends and modeling	Torkjel Sandanger	UiT, NILU	Hazardous substances	Torkjel.Sandanger@nilu.no
Indoor Air Quality in polar regions. The case of Tromsø	Sandra Huber	NILU, UiT, NRPA, Norut	Hazardous substances	shu@nilu.no
<i>The impact of climate change on transport and fate of contaminants in the Arctic</i>				
Emission, exposure and effects of cyclic siloxanes	Nicholas Warner	NILU, ApN, UiT	Hazardous substances	Nicholas.Warner@nilu.no
COPOL II - Importance of primary and secondary sources for POP-concentrations in Kongsfjorden	Geir W. Gabrielsen	ApN, NPI, NILU	Hazardous substances	gabrielsen@npolar.no

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COPOL – Methylmercury in Arctic marine food webs	Anders Ruus	ApN, NIVA, NPI, NILU	Hazardous substances	anders.ruus@niva.no
Impacts of environmental contaminants and natural stressors on northern raptors	Jan O. Bustnes	NINA, NILU, UiT	Hazardous substances	Jan.Bustnes@nina.no
Effects of contaminant exposure on energetics	Heli Routti	NPI, NILU, UiT, NVH, SINTEF	Hazardous substances	heli.routti@npolar.no
Is the Arctic charr population in Lake Ellasjøen, Bjørnøya, affected by chronic exposure to contaminants?	Anita Evenset	ApN, NILU, UiT	Hazardous substances	Anita.Evenset@akvaplan.niva.no
Influence of pollution and climate variation in rivers and coastal waters indicated by freshwater and marine bivalves	Michael Carroll	ApN, Bioforsk, NINA	Hazardous substances	michael.carroll@akvaplan.niva.no
Reproductive health in a heavily polluted subarctic environment	Oddmund Kleven	NINA, NRPA, UiT, NGU	Hazardous substances	oddmund.kleven@nina.no
Multi-stress relationships in seabird populations: interactions between natural stressors and environmental contaminants	Jan O. Bustnes	NINA, NPI, NVH, ApN, NILU	Hazardous substances	Jan.Bustnes@nina.no
Effects of organophosphorus flame retardants in benthic and pelagic Arctic fish species	Lisa B. Helgason/ Ingeborg Hallanger	UiT, NILU, NIVA	Hazardous substances	lisa.b.helgason@uit.no / ingeborg.g.hallanger@uit.no
Hydrophilic pollutants and metabolites in Arctic biota samples	Dorte Herzke	NILU, NPI, NINA, ApN	Hazardous substances	dorte.herzke@nilu.no
<i>Pollution from petroleum activities and shipping in the north – Effects on Arctic ecosystems and communities</i>				
The combined effects of radionuclides, metals and organic contaminants in produced water on early life stages of <i>Calanus finmarchicus</i>	Louise K. Jensen	NRPA, UiT, NIVA, SINTEF	Hazardous substances	louise.kiel.jensen@nrpa.no

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Impact of thermal stress and toxicant exposure in polar cod investigated by in vitro techniques and genome-wide transcriptome analyses	Øivind Andersen/ Perrine Geraudie	Nofima, APN, UiT	Hazardous substances	oivind.andersen@nofima.no / pge@akvaplan.niva.no
"Oil in ice" - Fate, Effect, and Risk Modelling of accidental oil spill in sea ice ecosystem	Lionel Camus	ApN, Norut, NPI, SINTEF UNIS	Hazardous substances	lionel.camus@akvaplan.niva.no
<i>Risk communication and participatory governance on local, national and international level</i>				
Contaminants, food and health security in border regions	Eldbjørg Heimstad	NILU, Norut, UiT, ApN, NRPA	Hazardous substances	esh@nilu.no

*A number of projects have a significant amount of international cooperation

Abbreviations:

ApN: Akvaplan-NIVA Inc.; **Bioforsk:** Norwegian Institute for Agricultural and Environmental Research; **CICERO:** Center for International Climate and Environmental Research – Oslo; **DnV:** Norwegian Veritas; **FNI:** Fridtjof Nansen Institute; **IMR:** Institute of Marine Research; **HiFi:** Finnmark University College; **Kongsberg:** Kongsberg Satellite Services; **Kystverket:** Norwegian Coastal Administration; **MarinTek:** The Norwegian Marine Technology Research Institute; **Met.no:** The Norwegian Meteorological Institute; **MMBI:** Murmansk Marine Biological Institute; **NGU:** Geological Survey of Norway; **NINA:** Norwegian Institute for Nature Research; **NIKU:** The Norwegian Institute for Cultural Heritage Research; **NILU:** Norwegian Institute for Air Research; **NIVA:** Norwegian Institute for Water Research; **Nofima:** The Norwegian Institute of Food, Fisheries and Aquaculture Research; **Norut:** Northern Research Institute; **NPI:** Norwegian Polar Institute; **NRPA:** Norwegian Radiation Protection Authority; **NTNU:** Norwegian University of Science and Technology; **NVH:** Norwegian School of Veterinary Science; **SINTEF:** The Company for Industrial and Technological Research; **SSHF:** Centre of Sami Health Research; **TØI:** The Institute of Transport Economics; **UiB:** University of Bergen; **UiT:** University of Tromsø; **UNIS:** The University Centre in Svalbard; **Unilab:** Unilab Analysis Inc.; **VI:** Norwegian Veterinary Institute

