



## Projects in the Fram Centre Flagships for 2017

Research areas/Project titles	Project leader (s)	Participating institutions	Flagship	E-mail project leader
<p><b>Effects of climate change on sea and coastal ecology in the north (Fjord and Coast)</b></p> <p><i>Physical-biological coupling: Oceanography and habitat use by predators and their prey</i></p>				
Impact of massive winter herring abundances on the Kaldfjorden environment	Angelika Renner	IMR, ApN, NIVA	Fjord and Coast	<a href="mailto:angelika.renner@imr.no">angelika.renner@imr.no</a>
The impact of oceanic inflow and glacial runoff on the carbon budget in Kongsfjorden using field and modell data	Melissa Chierici	IMR, NPI, UNIS	Fjord and Coast	<a href="mailto:melissa.chierici@imr.no">melissa.chierici@imr.no</a>
The role of the harbour porpoise in Norwegian coastal marine communities	Ulf Lindstrøm	IMR, UiT, ApN, NAMMCO, NTNU, UoStA	Fjord and Coast	<a href="mailto:ulf.lindstroem@imr.no">ulf.lindstroem@imr.no</a>
Examining the role of fish-falls on ecosystem processes in highly exploited fjord systems	Paul Renaud	ApN, NIVA, IMR, HWU, NOC	Fjord and Coast	<a href="mailto:paul.renaud@akvaplan.niva.no">paul.renaud@akvaplan.niva.no</a>
Seabird habitat use and migration strategies	Børge Moe	NINA, ApN, UiT, NILU, UNIS, NPI, NTNU, UoO, CNRS, LRU, UoGr, IMARES, AU, AARI, UoF, CEH BAS, UAF, UoIs, UTu	Fjord and Coast	<a href="mailto:borge.moe@nina.no">borge.moe@nina.no</a>
The coastal migratory behaviour of anadromous fish in relation to environmental parameters	Guttorm N. Christensen	ApN, UiT, NIVA, FOC, UoWa	Fjord and Coast	<a href="mailto:gnc@akvaplan.niva.no">gnc@akvaplan.niva.no</a>
Research on maritime cultural heritage in coastal Arctic regions	Sanne Bech Holmgaard	NIKU, NINA, TCD	Fjord and Coast	<a href="mailto:sanne.holmgaard@niku.no">sanne.holmgaard@niku.no</a>

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Timing of reproduction in seabirds: Population dynamics, climate and lower trophic levels	Zofia Burr	UNIS, NPI, NINA, UiT, ApN, IMR, BS	Fjord and Coast	<a href="mailto:zofia.burr@gmail.com">zofia.burr@gmail.com</a>
Ecological and commercial implications of extreme winter arrivals of herring and whales into North-Norwegian fjord systems	Martin Biuw	IMR, NINA, UiT	Fjord and Coast	<a href="mailto:martin.biuw@imr.no">martin.biuw@imr.no</a>
Mapping Sea Ice Characteristics relevant for Arctic Coastal Ecosystems	Sebastian Gerland	NPI, MET, NORUT, UiT	Fjord and Coast	<a href="mailto:sebastian.gerland@npolar.no">sebastian.gerland@npolar.no</a>
<i>Structure, function and change in Arctic and boreal fjord ecosystems</i>				
Recovery of coastal kelp ecosystems – driven by climate change or predators?	Hartvig Christie	NIVA, IMR, ApN, NBIC	Fjord and Coast	<a href="mailto:hartvig.christie@niva.no">hartvig.christie@niva.no</a>
Salmon at sea in a changing world	Martin Svenning	NINA, UiT, LUKE, UTu, FOC, UoWa	Fjord and Coast	<a href="mailto:martin.svenning@nina.no">martin.svenning@nina.no</a>
Carbon flux dynamics in ice-free versus ice-covered Svalbard fjords during the last decade: Exploring the effects of sea ice variability on the downward flux of biogenic particles	Gerald Darnis	ApN, UiT, UNIS, NPI, UoLa SAMS	Fjord and Coast	<a href="mailto:gerald.darnis@akvaplan.niva.no">gerald.darnis@akvaplan.niva.no</a>
The Arctic scallop <i>Chlamys islandica</i> as a biosensor for detection of effects of climate upon ecosystem functioning and anthropogenic impact in Svalbard	Lionel Camus	ApN, UNIS, UiT, CNRS	Fjord and Coast	<a href="mailto:lionel.camus@akvaplan.niva.no">lionel.camus@akvaplan.niva.no</a>
Pan arctic connectivity of zooplankton populations: The case of <i>Pseudocalanus</i>	Claudia Halsband	ApN, UNIS, UiT, UoCo, UoAF	Fjord and Coast	<a href="mailto:claudia.halsband@akvaplan.niva.no">claudia.halsband@akvaplan.niva.no</a>
Marine snow, pelagic-benthic coupling and the impact of the harpacticoid copepod <i>Microsetella norvegica</i> , and other agents in a high-latitude fjord	Camilla Svensen	UiT, NPI, IMR, DTU, AWI	Fjord and Coast	<a href="mailto:camilla.svensen@uit.no">camilla.svensen@uit.no</a>
Marine base maps for the Porsanger Fjord	Aivo Lepland	NGU, IMR, NRPA	Fjord and Coast	<a href="mailto:aivo.lepland@ngu.no">aivo.lepland@ngu.no</a>
Climate-driven regime shifts in arctic rocky-bottom communities	Raul Primicerio	UiT, ApN, UNIS	Fjord and Coast	<a href="mailto:raul.primicerio@uit.no">raul.primicerio@uit.no</a>
Meroplankton biodiversity and seasonal dynamics	Janne Søreide	UNIS, ApN, UoGd, PAS	Fjord and Coast	<a href="mailto:janne.soreide@unis.no">janne.soreide@unis.no</a>

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<b>Sea ice in the Arctic Ocean, Technology and Governance (Arctic Ocean)</b>				
<i>Sea ice, ecosystems and models</i>				
Developing modelling tools to understand the role of solar radiation to sea ice mass balance in a seasonally ice covered Arctic	Mats Granskog	NPI, MET, UiT	Arctic Ocean	<a href="mailto:mats.granskog@npolar.no">mats.granskog@npolar.no</a>
Long-term variability and trends in the Atlantic water inflow region	Paul A. Dodd	NPI, IMR, UNIS, UiT, IOPAS, WHOI	Arctic Ocean	<a href="mailto:paul.dodd@npolar.no">paul.dodd@npolar.no</a>
Mesoscale modelling of ice, ocean and ecology of the Arctic Ocean	Tore Hattermann	ApN, IMR, NPI, SINTEF, MET	Arctic Ocean	<a href="mailto:tore.hattermann@akvaplan.niva.no">tore.hattermann@akvaplan.niva.no</a>
Ecosystem modelling of the Arctic Ocean around Svalbard	Pedro Duarte	NPI, ApN, NIVA, UiT	Arctic Ocean	<a href="mailto:pedro.duarte@npolar.no">pedro.duarte@npolar.no</a>
Holocene ocean and sea ice history at north-east Svalbard - from past to present warm extremes	Katrine Husum	NPI, UiT, UNIS, BAS, BCCR/UoB, NCAOR, UoP, UCL	Arctic Ocean	<a href="mailto:katrine.husum@npolar.no">katrine.husum@npolar.no</a>
Using tracers, atmospheric indices and model output to explain changes in the Arctic Ocean inflow and outflow through Fram Strait	Paul A. Dodd	NPI, NRPA, ApN, IMR, OASYS	Arctic Ocean	<a href="mailto:paul.dodd@npolar.no">paul.dodd@npolar.no</a>
Assessment of ecosystem vulnerability and functioning in ice-affected waters	Lis L. Jørgensen	IMR, UiT, UNIS, ApN	Arctic Ocean	<a href="mailto:lis.lindal.joergensen@imr.no">lis.lindal.joergensen@imr.no</a>
Barents Sea harp seals in a changing Arctic	Kjell T. Nilssen	IMR, UiT, ApN, PINRO, SMR, SAMS	Arctic Ocean	<a href="mailto:kiell.tormod.nilssen@imr.no">kiell.tormod.nilssen@imr.no</a>
<i>Driving forces and development of new industry</i>				
Information systems in the Arctic Ocean: Drivers, architecture, and effects on the development of marine economic activities	Maaike Knol	UiT, NPI, MET, WU, SCNN	Arctic Ocean	<a href="mailto:maaike.knol@uit.no">maaike.knol@uit.no</a>
<i>Technology</i>				
Ice floe interaction with ships and waves	Karl Gunnar Aarsæther	SINTEF, UiT, TO, Opilio Inc.	Arctic Ocean	<a href="mailto:Karl.Gunnar.Aarsather@sintef.no">Karl.Gunnar.Aarsather@sintef.no</a>

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<b>Ocean acidification and ecosystem effects in northern waters (Ocean acidification)</b>				
<i>Understanding the physical and chemical mechanisms controlling ocean acidification (OA) in Arctic waters – past, present and future</i>				
Current OA state and variability	Agneta Fransson	NPI, NIVA, IMR, UiT, UNIS, BedIn	Ocean acidification	<a href="mailto:agneta.fransson@npolar.no">agneta.fransson@npolar.no</a>
Biogeochemical drivers and climate change on OA	Agneta Fransson	NPI, IMR, UoH, BedIn	Ocean acidification	<a href="mailto:agneta.fransson@npolar.no">agneta.fransson@npolar.no</a>
<i>Biological effects of Ocean Acidification (OA)</i>				
Physiological challenges of OA on copepods	Howard Browman	IMR, NPI, BOS, UoM, CU, RU	Ocean acidification	<a href="mailto:howardb@imr.no">howardb@imr.no</a>
Transgenerational effects of OA	Caludia Halsband	ApN, NPI	Ocean acidification	<a href="mailto:claudia.halsband@akvaplan.niva.no">claudia.halsband@akvaplan.niva.no</a>
Evolutionary rescue from Arctic OA	Haakon Hop	NPI, UNIS, UQAR, UoGo	Ocean acidification	<a href="mailto:haakon.hop@npolar.no">haakon.hop@npolar.no</a>
Ontogeny and physiological constraints on early life history stages of <i>Lophelia pertusa</i>	Johanna Järnegren	NINA, FSU	Ocean acidification	<a href="mailto:johanna.jarnegren@nina.no">johanna.jarnegren@nina.no</a>
Pteropod shell thickness and composition in different regimes	Agneta Fransson	NPI, IMR, JAMSTEC, PAS	Ocean acidification	<a href="mailto:agneta.fransson@npolar.no">agneta.fransson@npolar.no</a>
<i>Coupled climate-ecosystem-acidification modelling from organism to basin</i>				
Validation and comparison of coupled physical-biogeochemical models	Philip Wallhead	NIVA, IMR	Ocean acidification	<a href="mailto:philip.wallhead@niva.no">philip.wallhead@niva.no</a>
Investigate pelagic ecosystem sensitivity and feedbacks to Arctic OA	Philip Wallhead	NIVA, IMR	Ocean acidification	<a href="mailto:philip.wallhead@niva.no">philip.wallhead@niva.no</a>

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<i>Socio-economic consequences and management options</i>				
Ecosystem effects of OA in northern waters: Socio-economic consequences and management options	Jannike Falk-Andersson	NORUT, NIVA, IMR, UoQ	Ocean acidification	<a href="mailto:Jannike.Falk-Andersson@norut.no">Jannike.Falk-Andersson@norut.no</a>

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<b>Effects of climate change on terrestrial ecosystems, landscapes, society and indigenous peoples (Terrestrial)</b>				
<i>Vegetation state change and herbivore management</i>				
After-the-Pest: Ecosystem transitions following insect pest outbreaks induced by climate change in the European high north	Jane Uhd Jepsen	NINA, UiT	Terrestrial	<a href="mailto:jane.jepsen@nina.no">jane.jepsen@nina.no</a>
Hunt for the birch larva: A citizen science initiative for mapping of an invasive species	Jane Uhd Jepsen	NINA, UiT	Terrestrial	<a href="mailto:jane.jepsen@nina.no">jane.jepsen@nina.no</a>
Moose in Finnmark - spatial ecology and management in a changing landscape	Erling Meisingset	NIBIO, UiT, NINA	Terrestrial	<a href="mailto:erling.meisingset@nibio.no">erling.meisingset@nibio.no</a>
<i>Ecosystem effects of extreme climate events and changing seasons</i>				
Use of remote sensing for increased precision in forage production	Marit Jørgensen	NIBIO, NORUT, NINA	Terrestrial	<a href="mailto:marit.jorgensen@nibio.no">marit.jorgensen@nibio.no</a>
Ecosystem stress from the combined effects of winter climate change and air pollution - how do the impacts differ between biomes?	Jarle W. Bjerke	NINA, MET, NORUT	Terrestrial	<a href="mailto:jarle.werner.bjerke@nina.no">jarle.werner.bjerke@nina.no</a>
Health and infectious diseases in semi-domesticated reindeer in a changing climate	Morten Tryland	UiT, VET, NINA, NORUT, EINRC	Terrestrial	<a href="mailto:morten.tryland@uit.no">morten.tryland@uit.no</a>
North state TromSAR - climate variability in SAR land cover monitoring	Jörg Haarpaintner	NORUT, NINA, NCA	Terrestrial	<a href="mailto:Joerg.Haarpaintner@norut.no">Joerg.Haarpaintner@norut.no</a>
Arctic growing season length: Remote sensing of growing season length on Svalbard's Arctic tundra in relation to snow melt date	Elisabeth Cooper	UiT, NINA, NORUT	Terrestrial	<a href="mailto:elisabeth.cooper@uit.no">elisabeth.cooper@uit.no</a>

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<i>Capacity for adaptation in indigenous people and local societies</i>				
Social norms of equality and cooperation: A comparative approach	Marius Warg Næss	NIKU, NINA, SUAS	Terrestrial	<a href="mailto:marius.naess@niku.no">marius.naess@niku.no</a>
Land use change among indigenous pastoralists: Mapping historic land use in northern landscapes	Stine Barlindhaug	NIKU, NMBU, UiT	Terrestrial	<a href="mailto:stine.barlindhaug@niku.no">stine.barlindhaug@niku.no</a>
<i>Adaptive management of ecosystem services</i>				
Socio-ecologic modelling of reindeer population dynamics at multiple spatial scales using a structural equation modelling approach	Bård-Jørgen Bårdsen	NINA, NIKU, NMBU	Terrestrial	<a href="mailto:bard.jorgen.bardsen@nina.no">bard.jorgen.bardsen@nina.no</a>
Sustainable management of renewable resources in a changing environment: An integrated approach across ecosystems	John-André Henden	UiT, UoO, NTNU, NINA, NPI	Terrestrial	<a href="mailto:john-andre.henden@uit.no">john-andre.henden@uit.no</a>
Taking into account heterogeneity in ecosystem services monitoring and climate change adaptation	Vera Hausner	UiT, NINA, USU, CPSU	Terrestrial	<a href="mailto:vera.hausner@uit.no">vera.hausner@uit.no</a>
Yamal ecosystem - collaboration for monitoring of climate related ecosystem change on Yamal, Russia	Dorothee Ehrich	UiT, NPI, NINA, RAS	Terrestrial	<a href="mailto:dorothee.ehrich@uit.no">dorothee.ehrich@uit.no</a>
<i>Observation systems for climate effects</i>				
COAT: Climate-ecological-Observatory-for-Arctic-Tundra	Rolf Ims	UiT, NINA, NPI, UNIS, MET	Terrestrial	<a href="mailto:rolf.ims@uit.no">rolf.ims@uit.no</a>
<i>Outreach</i>				
Book: Snowy Owl ( <i>Bubo scandiacus</i> )	Karl-Otto Jakobsen	NINA	Terrestrial	<a href="mailto:karl.o.jacobsen@nina.no">karl.o.jacobsen@nina.no</a>

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<b>Hazardous substances – effects on ecosystems and human health (Hazardous substances)</b>				
<i>The effects of contaminants on human health and Arctic communities</i>				
Assessing contaminant exposure in school children using novel and non-invasive wristbands	Linda Hanssen	NILU, ApN, UiT	Hazardous substances	<a href="mailto:linda.hanssen@nilu.no">linda.hanssen@nilu.no</a>
Human biomonitoring and mechanistic modelling of organic compounds across time (1986-2007) in 30 year old Tromsø men	Therese H. Nøst	NILU, ApN, UiT, UNN, INSPQ	Hazardous substances	<a href="mailto:therese.h.nost@uit.no">therese.h.nost@uit.no</a>
Effect of the exposure to perfluoro-octanoic acid during gestation in mice on the immune response of offspring to pertussis (whooping cough) vaccination	Jacques Godfroid	UiT, NILU	Hazardous substances	<a href="mailto:jacques.godfroid@uit.no">jacques.godfroid@uit.no</a>
<i>The fate and effects of contaminants in Northern ecosystem in combination with climate change, natural and anthropogenic stressors</i>				
Atmospheric inputs of organic contaminants of emerging concern to the Arctic and possible implications for ecosystem exposure	Ingjerd S. Krogseth	ApN, NILU	Hazardous substances	<a href="mailto:isk@nilu.no">isk@nilu.no</a>
Giants of the ocean – affected by anthropogenic pollutants?	Heli Routti	ApN, NPI, NILU, UoB, UoS	Hazardous substances	<a href="mailto:heli.routti@npolar.no">heli.routti@npolar.no</a>
Impacts of environmental contaminants and natural stressors on northern raptors	Jan Ove Bustnes	NINA, NILU, NTNU, UiT, UoA, AU, UoMu	Hazardous substances	<a href="mailto:jan.o.bustnes@nina.no">jan.o.bustnes@nina.no</a>
Multi-stress relationships in seabird populations: Interactions between natural stressors and environmental contaminants	Jan Ove Bustnes	NINA, NPI, NILU, ApN, UoO, CEBC	Hazardous substances	<a href="mailto:jan.o.bustnes@nina.no">jan.o.bustnes@nina.no</a>



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Contaminant levels and effects in killer ( <i>Orcinus orca</i> ) and humpback whales ( <i>Megaptera novaeangliae</i> ) present in Northern-Norway	Jenny Bytingsvik	ApN, NIVA, NILU, UiT, IMR, NPI, VU	Hazardous substances	<a href="mailto:jby@akvaplan.niva.no">jby@akvaplan.niva.no</a>
Habitat and dietary specific accumulation of methylmercury in Arctic charr	Hans Fredrik V. Braaten	NIVA, ApN, NINA, UiT	Hazardous substances	<a href="mailto:HansFredrik.VeitebergBraaten@niva.no">HansFredrik.VeitebergBraaten@niva.no</a>
Endocrine disruptor sex change	Marc Anglès d'Auriac	NIVA, ApN, UiT	Hazardous substances	<a href="mailto:marc.angles.dauriac@niva.no">marc.angles.dauriac@niva.no</a>
Impact of climate sensitive life history traits on uptake and maternal transfer of pollutants in Arctic breeding geese	Øystein Varpe	UNIS, ApN, NIVA, UoO, NILU, NINA, WWT, UoGr	Hazardous substances	<a href="mailto:oystein.varpe@unis.no">oystein.varpe@unis.no</a>
<i>Impact from industrial development and urbanization in the North - Fate and effects of pollutants on Arctic ecosystems</i>				
Microplastics from artificial sports pitches: Composition, degradation and biological interactions	Dorte Herzke	NILU, ApN, SINTEF, IMR, UoBe	Hazardous substances	<a href="mailto:dorte.herzke@nilu.no">dorte.herzke@nilu.no</a>
Impact of Arctic urbanization on the occurrence of new “urban” contaminants in the Norwegian Arctic	Pernilla Bohlin Nizzetto	NILU, NIVA, ApN, RECETOX	Hazardous substances	<a href="mailto:pbn@nilu.no">pbn@nilu.no</a>
<i>Risk governance - Communicating and applying research results</i>				
Case Orrefjell: Evaluation of possible adverse effects related to living in an area with enhanced levels of naturally occurring radioactive material	Louise Kiel Jensen	NRPA, NORUT, NMBU, NGU	Hazardous substances	<a href="mailto:louise.kiel.jensen@nrpa.no">louise.kiel.jensen@nrpa.no</a>
Bringing the Arctic perspective to global conventions – the role of science in the negotiations towards the adoption of the Minamata Convention	Froukje Maria Platjouw	NIVA, ApN, UiT	Hazardous substances	<a href="mailto:fmp@niva.no">fmp@niva.no</a>

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<b>Environmental impacts of industrial activity in the north (MIKON)</b>				
<i>Knowledge basis for ecosystem based management</i>				
Managing variable environmental values: Holistic integrations for Arctic coastal-marine sustainability	Ellen Øseth	NPI, IMR	MIKON	<a href="mailto:oseth@npolar.no">oseth@npolar.no</a>
Ecosystem vulnerability assessment of resources in the the Barents Sea	Raul Primicerio	UiT, IMR, ApN	MIKON	<a href="mailto:raul.primicerio@uit.no">raul.primicerio@uit.no</a>
Ocean Health in Transition: Indices of ocean health under shifting ecological and societal conditions	Per Fauchald	NINA, UiT, NIVA, IMR, NORUT, Nofima	MIKON	<a href="mailto:per.fauchald@nina.no">per.fauchald@nina.no</a>
<i>Consequences for organisms and ecosystems</i>				
Development of model for prediction of eutrofication and sedimentation from fish cage farms	Ole Anders Nøst	ApN, NORUT, UiT, NIVA	MIKON	<a href="mailto:ole.anders.nost@akvaplan.niva.no">ole.anders.nost@akvaplan.niva.no</a>
Fate and impact of mine tailings on marine Arctic ecosystems	Anita Evenset	ApN, NGU, IMR, NORUT, NRPA, SIO, UoG	MIKON	<a href="mailto:anita.evenset@akvaplan.niva.no">anita.evenset@akvaplan.niva.no</a>
Arctic Cetaceans and Ocean Noise	Kit Kovacs	NPI, UiT, UNIS	MIKON	<a href="mailto:kit.kovacs@npolar.no">kit.kovacs@npolar.no</a>
How to avoid conflicts between wild and farmed salmonids? Finding good locations for aquaculture	Jenny L.A. Jensen	ApN, UiT, IMR	MIKON	<a href="mailto:jenny.jensen@akvaplan.niva.no">jenny.jensen@akvaplan.niva.no</a>
Seabird moulting and chick rearing area in relation to planned oil activity in the southeastern Barents Sea	Kjell Einar Erikstad	NINA, NPI, IMR, CEH	MIKON	<a href="mailto:kjell.erikstad@nina.no">kjell.erikstad@nina.no</a>

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<i>Consequences for cultural heritage and society</i>				
Sea urchin harvest: Ecosystem recovery, integrated management of social-ecological system, ecosystem service and sustainability	Wenting Chen	NIVA, UiT, Nofima, UoC	MIKON	<a href="mailto:wenting.chen@niva.no">wenting.chen@niva.no</a>
The impact of extractive industries and tourism on socioecological dynamics in the Arctic	Vera Hausner	UiT, NINA	MIKON	<a href="mailto:vera.hausner@uit.no">vera.hausner@uit.no</a>
Ecosystem services and coastal governance	Einar Eythorsson	NIKU, Nofima	MIKON	<a href="mailto:einar.eythorsson@niku.no">einar.eythorsson@niku.no</a>
Indigenous-industry governance interactions in the Arctic: Environmental impacts and knowledge basis for management	Camilla Brattland	UiT, NIKU	MIKON	<a href="mailto:Camilla.brattland@uit.no">Camilla.brattland@uit.no</a>

#### Abbreviations:

**AARI:** The Arctic and Antarctic Research Institute; **ApN:** Akvaplan-niva Inc.; **AU:** Aarhus University; **AWI:** Alfred Wegener Institute; **BAS:** British Antarctic Survey; **BCCR:** Bjerknes Centre for Climate Research; **BedIn:** Bedford Institute; **BOS:** Bigelow Laboratory for Ocean Science; **BS:** The Bjerknes Centre; **CEBC:** Centre d'Etudes Biologiques de Chizé; **CEH:** The Centre for Ecology & Hydrology; **CNRS:** The National Center for Scientific Research; **CPSU:** California Polytechnic State University; **CU:** Clemson University; **DTU:** Technical University of Denmark; **EINRC:** East Iceland Nature Research Centre; **FOC:** Fisheries and Oceans Canada; **FSU:** Florida State University; **HWU:** Heriot Watt University; **JAMSTEC:** Japan Agency for Marine-Earth Science and Technology; **IMARES:** Institute for Marine Resources & Ecosystem Studies; **IMR:** Institute of Marine Research; **INSPQ:** Public Health Expertise and Reference Centre - Québec; **IOPAS:** Institute of Oceanology, Polish Academy of Sciences; **LRU:** La Rochelle University; **LUKE:** Natural Resources Institute Finland; **MET:** The Norwegian Meteorological Institute; **NAMMCO:** North Atlantic Marine Mammal Commission; **NBIC:** Norwegian Biodiversity Information Centre; **NCA:** The Norwegian Coastal Administration; **NCAOR:** National Centre for Antarctic and Ocean Research; **NGU:** Geological Survey of Norway; **NIBIO:** The Norwegian Institute of Bioeconomy Research; **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; **NMBU:** Norwegian University of Life Sciences; **NOC:** National Oceanographic Centre; **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; **OASYS:** Ocean Atmosphere Systems - Research; **PAS:** Polish Academy of Sciences; **PINRO:** Polar Research Institute of Marine Fisheries and Oceanography; **RAS:** Russian Academy of Sciences; **RECETOX:** Research Centre for Toxic

Compounds in the Environment; **RU**: Ryerson University; **SAMS**: The Scottish Association for Marine Science; **SCNN**: Science Centre of Northern Norway; **SINTEF**: The Company for Industrial and Technological Research; **SIO**: Scripps Institution of Oceanography; **SMR**: Sea Mammal Research Unit; **SUAS**: Swedish University of Agricultural Science; **TCD**: Trinity College Dublin; **TO**: Troms Offshore; **UAF**: University of Alaska - Fairbanks; **UCL**: Université catholique de Louvain; **UiT**: UiT The Arctic University of Norway; **UNIS**: The University Centre in Svalbard; **UNN**: University Hospital of North Norway; **UoA**: University of Antwerpen; **UoAF**: University of Alaska-Fairbanks; **UoB**: University of Bergen; **UoBe**: University of Berkeley; **UoC**: University of California; **UoCo**: University of Connecticut; **UoF**: University of Freiburg; **UoG**: University of Gent; **UoGd**: University of Gdańsk; **UoGo**: University of Gothenburg; **UoGr**: University of Groningen; **UoH**: University of Hokkaido; **Uols**: University of Island; **UoLa**: University of Laval; **UoO**: University of Oslo; **UoM**: University of Maine; **UoMu**: University of Murcia; **UoP**: University of Plymouth; **UoQ**: University of Queensland; **UoS**: University of Siena; **UoStA**: University of St. Andrews; **UoWa**: University of Waterloo; **UQAR**: Université du Québec à Rimouski; **USU**: Utah State University; **UTu**: University of Turku; **VET**: Norwegian Veterinary Institute; **VU**: Vrije University Amsterdam; **WHOI**: Woods Hole Oceanographic Institution; **WU**: Wageningen University; **WWT**: Wildfowl and Wetlands Trust