

Ocean Decade – Arctic Action Plan

ANNEX B

Existing and planned activities
and initiatives that address elements
of the Action Plan challenges



Throughout the Arctic process a significant amount of input related to the development of the Arctic Action Plans challenges were received.

This section is an opportunity for all to contribute with novel ideas as well as good examples, technical guidance, regional context, important stakeholders and knowledge holders as well as ongoing initiatives and projects which should be considered in the implementation of actions. To bring all this knowledge forward the following section provides dedicated implementation notes and guidance for each challenge.

TEMPLATE

Name of Challenge in the Action Plan	<i>Please provide your input here</i>
Technical guidance	<i>Please provide your input here</i>
Key stakeholder to consider	<i>Please provide your input here</i>
Good examples	<i>Please provide your input here</i>
Other guidance	<i>Please provide your input here</i>

Name of Challenge in the Action Plan **Organisational challenge 4: Collaborating with key stakeholders on creating and maintaining joint open data sharing platform**

Key stakeholder to consider International Hydrographic Organization (IHO). IHO is the “United Nations of nautical charting and surveying organizations” and includes a number of working groups, policies etc.
 IHO holds the IHO Data Center for Digital Bathymetry, which holds, displays and shares bathymetric measurements and data.
 Nippon Foundation-GEBCO Seabed2030. GEBCO is an international framework for mapping the globes ocean seabeds, and Seabed2030 is a project within to push this effort until 2030. The Arctic is handled by a regional “Arctic and North Pacific Ocean Regional Center” run by Martin Jakobsson of Stockholm University and Larry Mayer of University of New Hampshire. The result is the commonly used bathymetric models of GEBCO and IBCAO found everywhere such model is relevant. The project is backed by Nippon Foundation, GEBCO, IHO, UNESCO and Intergovernmental Oceanographic Commission.

Other guidance Considering these existing collaborative efforts, a new open access data repository will need to consider the abovementioned initiatives.

Name of Challenge in the Action Plan **Organisational challenge 3) Collaborating and coordinating ongoing and future Arctic research, management and observation programmes**

Key stakeholder to consider In relation to the example of floating and autonomous bases. One group of key stakeholders to consider are Tara Ocean Foundation, and its industrial and scientific collaborators.

Good examples In addition to the ongoing observation programmes (e.g. SAON) one example of an upcoming internationally coordinated synoptic multidisciplinary ship-based field effort, is the Tara Polar Station which will be an inhabited, floating and autonomous base in the Arctic over the next 20 years. It will perform multiple repeated drifts across the Arctic Ocean and bring together scientific teams from around the world aboard its coming station. In Summer, a base camp will be installed alongside the Station which will then become a polar hub making the deployment of other scientific missions possible in the Arctic.

Name of Challenge in the Action Plan **Uptake challenge : Developing SAR and OSR capacity**

Technical guidance Existing tools/publications for oil spill response environmental assessments developed by AU (including contact persons): 1) Environment & Oil Spill Response (EOS) (<https://bios.au.dk/forskningraadgivning/temasider/environment-oil-spill-response-eos/>) For OSR contingency planning with respect to use of chemical dispersants and in situ burning 2) Oil Spill Sensitivity Atlas for Greenland (<https://bios.au.dk/en/researchconsultancy/themes/arctic/oil-and-environment-in-greenland/oil-spill-sensitivity-atlas/>) (PI: Anders Mosbech, amo@bios.au.dk) 3) Strategic Environmental Impact Assessments (SEIA) for hydrocarbon exploration in Greenland developed for South Greenland, Davis Strait, Disko West, Baffin Bay, Greenland Sea (available as reports (pdfs) on internet) 4) Heavy Fuel Oil (HFO): A review of fate and behaviour of HFO spills in cold seawater, including biodegradation (<http://norden.diva-portal.org/smash/get/diva2:1259220/FULLTEXT01.pdf>)

Key stakeholder to consider Arctic Council working groups (e.g., PAME, EPPR) Nordic Council of Ministries

Good examples	Oil spill response methods in a changing climate including operational and environmental assessment
Other guidance	<p>Prolific and on-going projects:</p> <p>1) GRACE (EU Horizon) (2016-2019): Integrated Oil Spill Response Actions and Environmental Effects. Project lead by SYKE, Finland – Aarhus University activities, e.g., coastal in situ burning (https://www.youtube.com/watch?v=51ieM7h7ykM) and effects on high arctic organisms from chemical dispersants, environmental assessment of oil spill response methods – EOS tool (https://bios.au.dk/forskningraadgivning/temasider/environment-oil-spill-response-eos/)</p> <p>2) LSFO - 2 projects (2021-) on environmental assessment and response – oil spill response (AU PI: Janne Fritt-Rasmussen, jfr@bios.au.dk)</p>

Name of Challenge in the Action Plan	Transformative solutions 2, challenge A: Understanding the Arctic ocean-climate nexus and ecosystem dynamics
Key stakeholder to consider	Fisheries and Oceans Canada (DFO), Government of Canada
Good examples	<p>Arctic marine research - DFO conducts research and supports a number of partners to help fill knowledge gaps in coastal and marine ecosystems in the Canadian Arctic to improve our understanding of baseline conditions, relationships with climate parameters and improving our ability to mobilize climate change considerations into science-based management programs.</p> <p>Specific funding programs:</p> <p>1) Projects by academic partners under the Coastal Environmental Baseline Program, Frobisher Bay, Nunavut, funded under Canada's Oceans Protection Plan (2017-21)</p> <p>2) Projects by DFO scientists supported by internal program funding.</p>

Name of Challenge in the Action Plan	Organisational challenge 5: Co-designing and producing actions linking across local, national and regional communities
Key stakeholder to consider	Canadian Inuit resource co-management organizations such as the Joint Fisheries Management Committee of the Inuvialuit Settlement Region; Fisheries and Oceans Canada (DFO), Government of Canada
Good examples	Knowledge co-production on beluga (qilalukkaq) in Canada's western Arctic - Indigenous organizations and Canadian

government scientists are working together to improve understanding of beluga population health, movement and linkages to ecosystems and climate change. This work includes the development of interactive workshops between scientists and Indigenous knowledge holders and a research governance structure for inclusive decision-making on research process, practices and activities.

Name of Challenge in the Action Plan **Organizational challenge 6: Collaborating with key stakeholders throughout the Arctic on increasing the global awareness of Arctic issues and ocean literacy in the region**

Key stakeholder to consider Fisheries and Oceans Canada (DFO), Government of Canada; Inuit Knowledge holders; Public

Good examples Canada's Oceans Now - As part of the Government of Canada's ongoing commitment to inform its citizens on the current state of its oceans, Fisheries and Oceans Canada produces a series of reports and communication materials. Each four-year series features an annual report summarizing the current status and trends for the Pacific, Atlantic, and Arctic oceans followed by a national synthesis. Reports provide highlights and examples of the multitude of influences and changes affecting these dynamic ocean systems. Arctic report and communication materials: [State of the Arctic Ocean \(dfo-mpo.gc.ca\)](https://www.dfo-mpo.gc.ca/state-of-the-arctic-ocean)

Name of Challenge in the Action Plan **Uptake challenge 4: Managing vulnerable habitats or threatened species through designation of marine protected areas**

Key stakeholder to consider Fisheries and Oceans Canada (DFO), Government of Canada; Inuit organizations; Territorial governments

Good examples Multidisciplinary Arctic Program – Last Ice (MAP-Last Ice) is a research project led by DFO to better understand the last permanently ice-covered region where old multiyear ice persists in the Arctic Ocean (2018-2021). In 2019, Tuvaijuittuq Marine Protected Area, located off the northwest coast of Ellesmere Island, Nunavut in the Arctic Ocean, was designated for interim protection (5 years) while the Qikiqtani Inuit Association, the Government of Nunavut and the Government of Canada work with Inuit and northern partners to explore the feasibility of longer term protection. [Tuvaijuittuq Marine Protected Area \(MPA\) \(dfo-mpo.gc.ca\)](https://www.dfo-mpo.gc.ca/tuvaijuittuq-marine-protected-area)

Name of Challenge in the Action Plan **Transformational solution 3: Observe the Arctic**

Technical guidance The ArcticROOS community would like to suggest that during the Ocean Decade an official Regional GOOS Alliance for the Arctic Ocean will be established. This should be agreed by the IOC and implemented as the ocean component of the SAON. An important component of this partnership will be the engagement with indigenous people to integrate their perspectives, ownership to data, traditional knowledge

Key stakeholder to consider Copernicus, ESA CCI, EMODnet, PAME, SIOS, International Ice Charting WG, European Research Infrastructures and Intaros etc

Name of Challenge in the Action Plan **Transformational solution 2, 3 and 4**

Technical guidance The British Antarctic Survey is currently leading a proposal for a long term, large scale UK NERC National Capability Science Multi-Centre Round 2 programme BIOPOLE (Biogeochemical processes and ecosystem function in changing polar systems have global impacts) which is studying the processes controlling elemental balances in polar systems and their importance to global productivity and carbon cycling 2022-2027.

Key stakeholder to consider British Antarctic Survey

www.oceandecade.dk/decade-actions

*Danish
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2021 United Nations Decade
2030 of Ocean Science
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