



The National Ocean Decade Committees of: Canada, Denmark, Greenland and Faroe Island and Norway

2024 OCEAN DECADE CONFERENCE

TOWARDS THE INTEGRATED
OCEAN SCIENCE WE NEED
FOR THE ARCTIC OCEAN WE
WANT

As part of the Ocean Decade Week (8-12 April 2024)



2021 United Nations Decade
of Ocean Science
2030 for Sustainable Development

Travel sponsor:
**AMUNDSEN
SCIENCE**

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WANT 10-12 APRIL 2024
BARCELONA, SPAIN

As part of the Ocean Decade Week (8-12 April 2024)

Welcome and introductions

Even Tronstad Sagebakken

State Secretary

Ministry of Trade, Industry and Fisheries, Norway

Kevin Brosseau

Associate Deputy Minister

Fisheries and Oceans Canada

Vidar Helgesen

Executive Secretary IOC of UNESCO

and Assistant-General of UNESCO



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Kevin Brosseau

Associate Deputy Minister
Fisheries and Oceans Canada



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Science collaboration

Greenland hunter on collaboration with Arctic PASSION researchers,
Qaanaaq

<https://youtu.be/xGvsVF5Huvvg?si=-TfMOA-kH8hzYtyF>



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Heidimarie Kassens

Chair of International Arctic Science Committee,
Marine Working Group
Geomar



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Marine Working Group - UNDOS Arctic Action Plan

The Arctic research community has published the Arctic Action Plan, in which the IASC plays a central role. In response to a request from the IOC, the IASC MWG has taken responsibility of stewardship the Action Plan. A proposal for an Arctic Regional Program has been submitted to provide a coordinating office to support better coordination between existing groups, indigenous people, stakeholders and initiatives in the Arctic for the UN Decade.

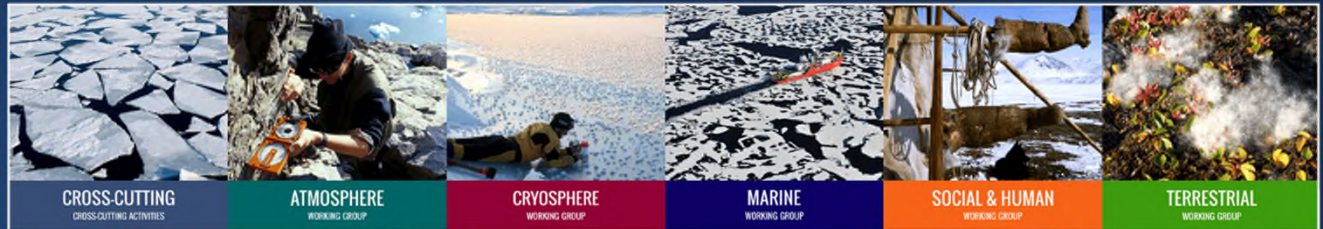
Ocean Decade – Arctic Action Plan



Danish Center for Marine Research



United Nations Decade of Ocean Science for Sustainable Development 2021-2030





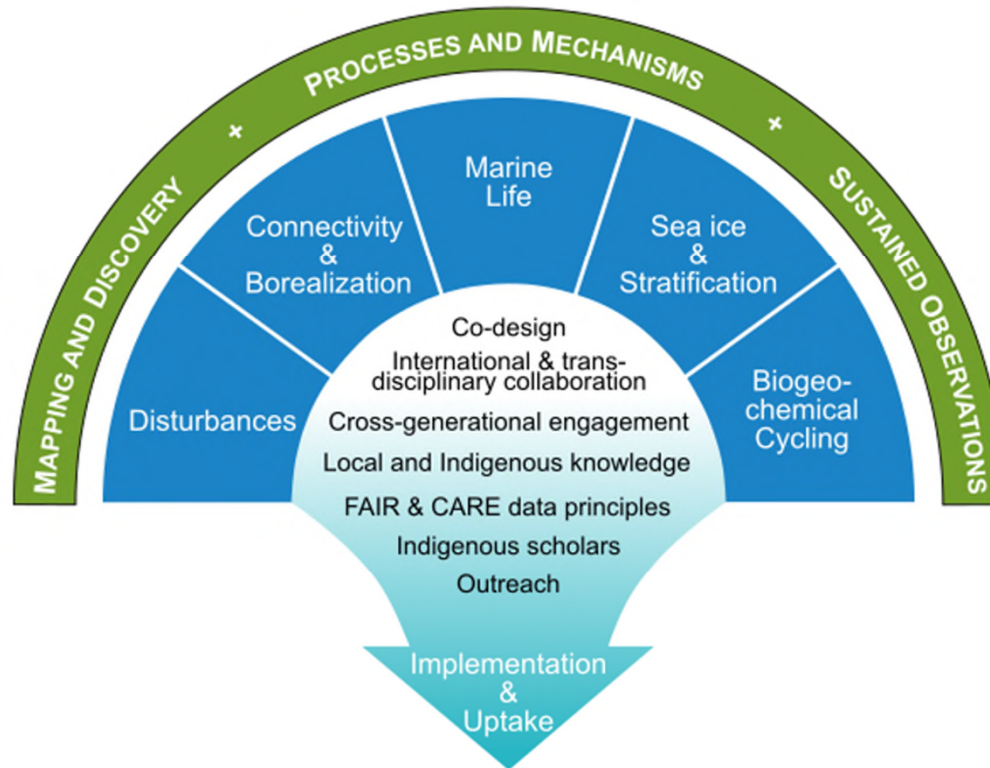
Marine Working Group – Strategic Plan

Priorities to support implementation of the UN DOS Arctic Action Plan and transdisciplinary research cooperation in the Arctic

UN Ocean Decade Challenges

- Challenge 1**
Understand and beat marine pollution
- Challenge 2**
Protect and restore ecosystems and biodiversity
- Challenge 3**
Sustainably feed the global population
- Challenge 5**
Unlock ocean-based solutions to climate change
- Challenge 6**
Increase community resilience to ocean hazards
- Challenge 7**
Expand the Global Ocean Observing System
- Challenge 10**
Change humanity's relationship with the ocean

A strategic plan for the Marine Working Group of the International Arctic Science Committee (IASC)



Predictability and Integrated Ecosystem Management

UN Ocean Decade - Arctic Action Plan

Research challenges

- Mapping and understanding Arctic ecosystem services (TS1)*
- Understand how anthropogenic pressures impact environmental health and resilience (TS2)*
- Understanding the Arctic ocean-climate nexus and ecosystem dynamics (TS2)*
- Coordinated sustained observations of the status and development of Arctic environments and pressures (TS3)*

Organizational challenges

- Collaborating and coordinating Arctic research and observations*





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Adrian Lema

Ocean Decade Committee of Denmark, Greenland, Faroe Islands

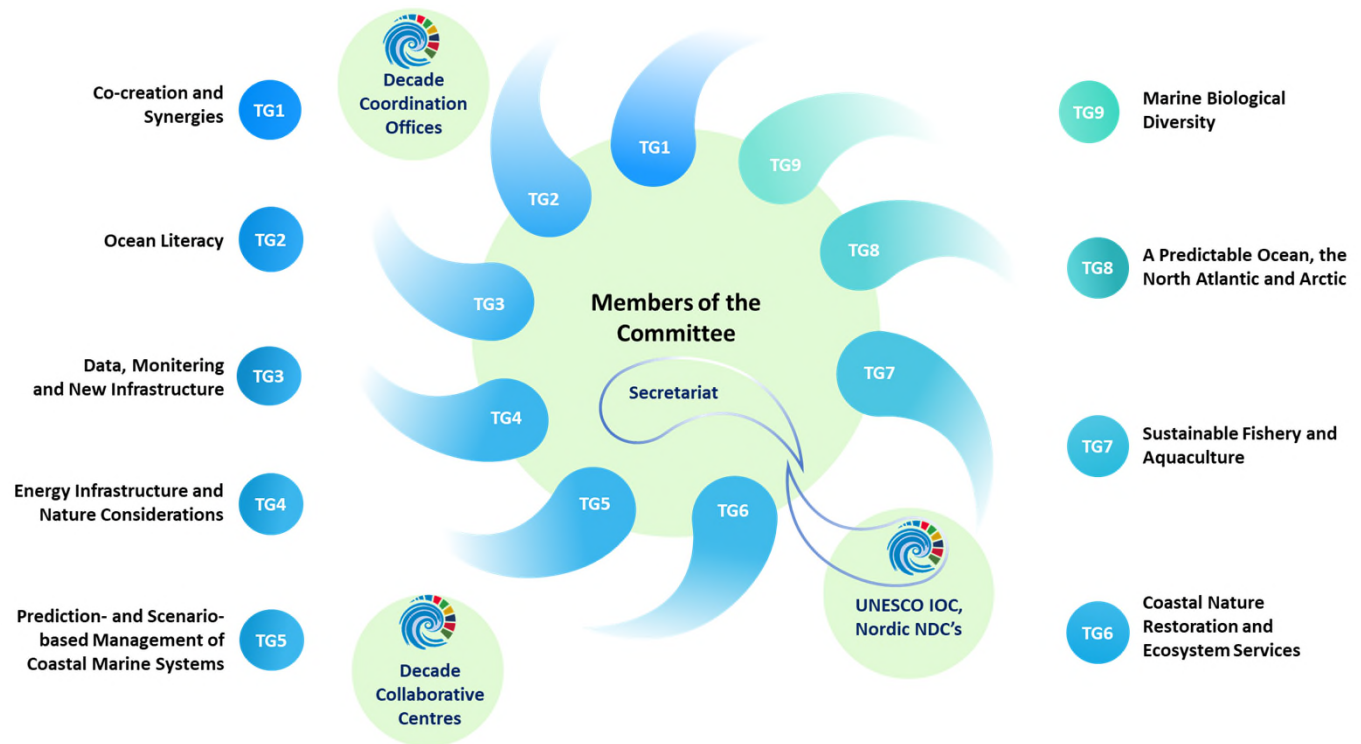
Director, National Center for Climate Research, Danish Met. Institute
Member, Decade Advisory Board



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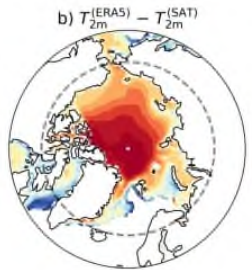
The Danish, Greenlandic and Faroese Committee for UN Ocean Decade

- Cross-disciplinary
- Cross-stakeholder
- Bridging knowledge and decision making
- Gaps, needs, action



Arctic initiatives

- Observations infrastructure, modelling, data
- Improved climate services and warnings in the changing environment
- Ocean risks and ecological and physical tipping points in the Arctic environment
- Understanding arctic biological diversity
- Food systems, aquaculture and sustainable fishery
- Engagement of arctic communities in observations and co-design





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Enooyaq Sudlovenick

Assistant Professor, University of Prince Edward Island



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Tariuvut

SAFE, CLEAN, SUSTAINABLE



Enooyaq Sudlovenick, Assis. Prof.

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Larry Mayer

Leader of the National Ocean Decade Committee of US
and Director of Center for Coastal & Ocean Mapping



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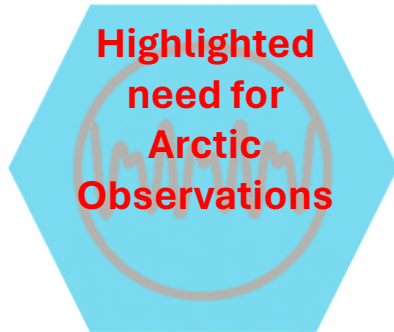
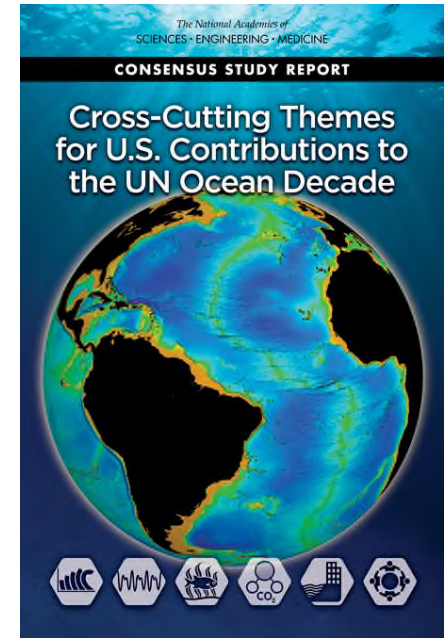
U.S. National Committee for the UN Decade of Ocean Science for Sustainable Development



An Inclusive and Equitable Ocean



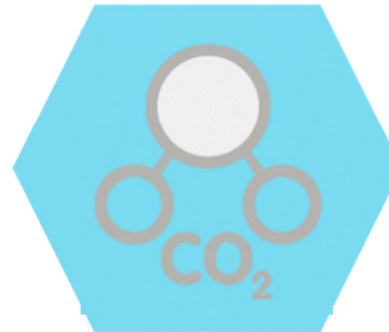
An Ocean of Data



The Ocean Revealed



The Restored and Sustainable Ocean



Ocean Solutions for Climate Resilience



Healthy Urban Seas

WHO FUNDS??????



OFFICE OF NAVAL RESEARCH

About ONR Organization Our Research Work With Us Education & Outreach

Home Organization Departments Ocean Battlespace Sensing Division 322 Ocean, Atmosphere and Space

ARCTIC AND GLOBAL PREDICTION

1. [Emerging Dynamics of the Marginal Ice Zone.](#)
2. [Sea State and Boundary Layer Physics of the Emerging Arctic Ocean.](#)
3. [Stratified Ocean Dynamics in the Arctic \(SODA\).](#)
4. [Arctic Mobile Observing System science \(AMOS\)](#)

USCG Icebreaker HEALY



U.S. NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 24-070

Dear Colleague Letter: Nordic-U.S. Research Collaboration on Sustainable Development of the Arctic

March 19, 2024

Dear Colleague:

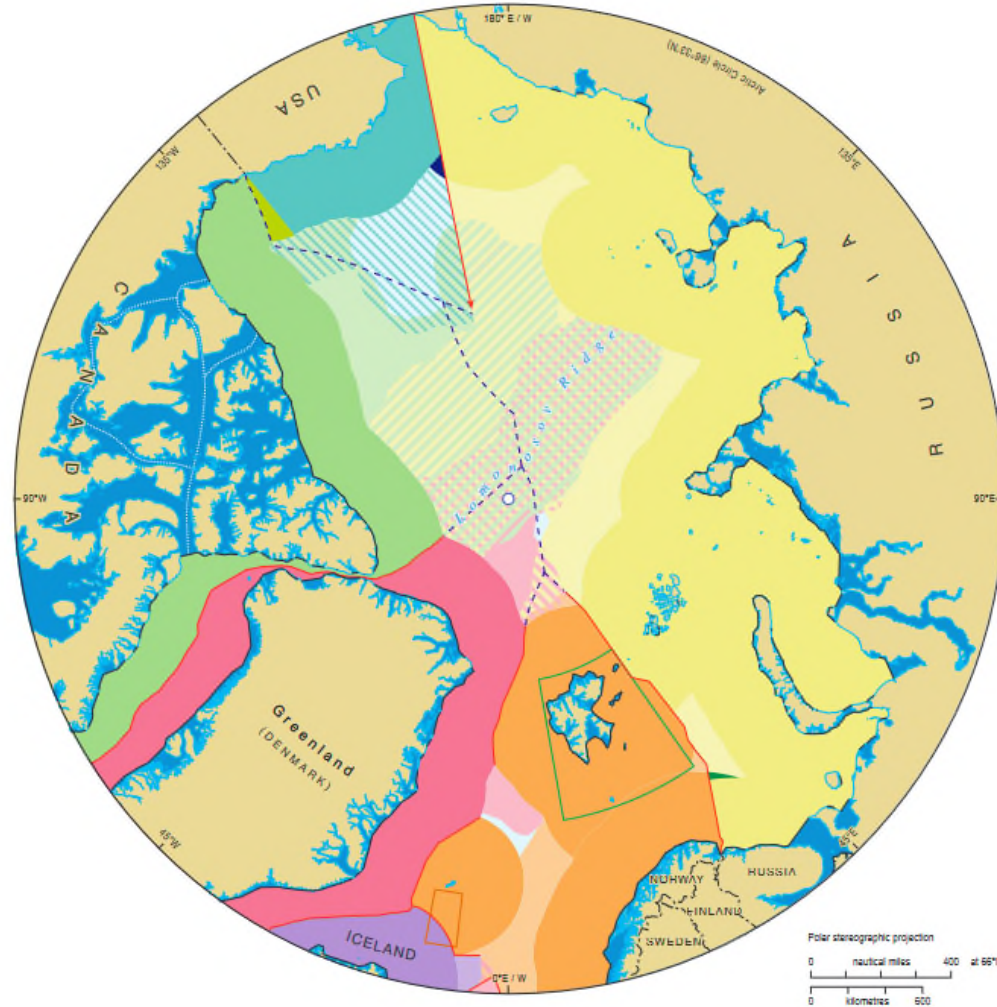
The U.S. National Science Foundation (NSF) and NordForsk, the science funding body of the Nordic Council of Ministers, have signed a Memorandum of Understanding (MOU) on Research Cooperation. The MOU provides an overarching framework to encourage collaboration among U.S., Nordic, and Canadian research communities and sets out the principles by which jointly supported activities might be developed.

NordForsk and NSF are pleased to announce support for interdisciplinary research to bring forward new knowledge on how to ensure sustainable development of the Arctic. This funding opportunity is designed to support interdisciplinary research projects of the highest international quality and potential for societal impact with clear added value from multilateral collaboration. Only interdisciplinary research will be funded that integrates skills from multiple

Lee Cooper and Jackie Grebmeier will use this mechanism to propose partial funding of Arctic-focused Decade Collaborative Center leveraging DBOs and other Arctic initiatives



Maritime jurisdiction and boundaries in the Arctic region





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Arild Sundfjord

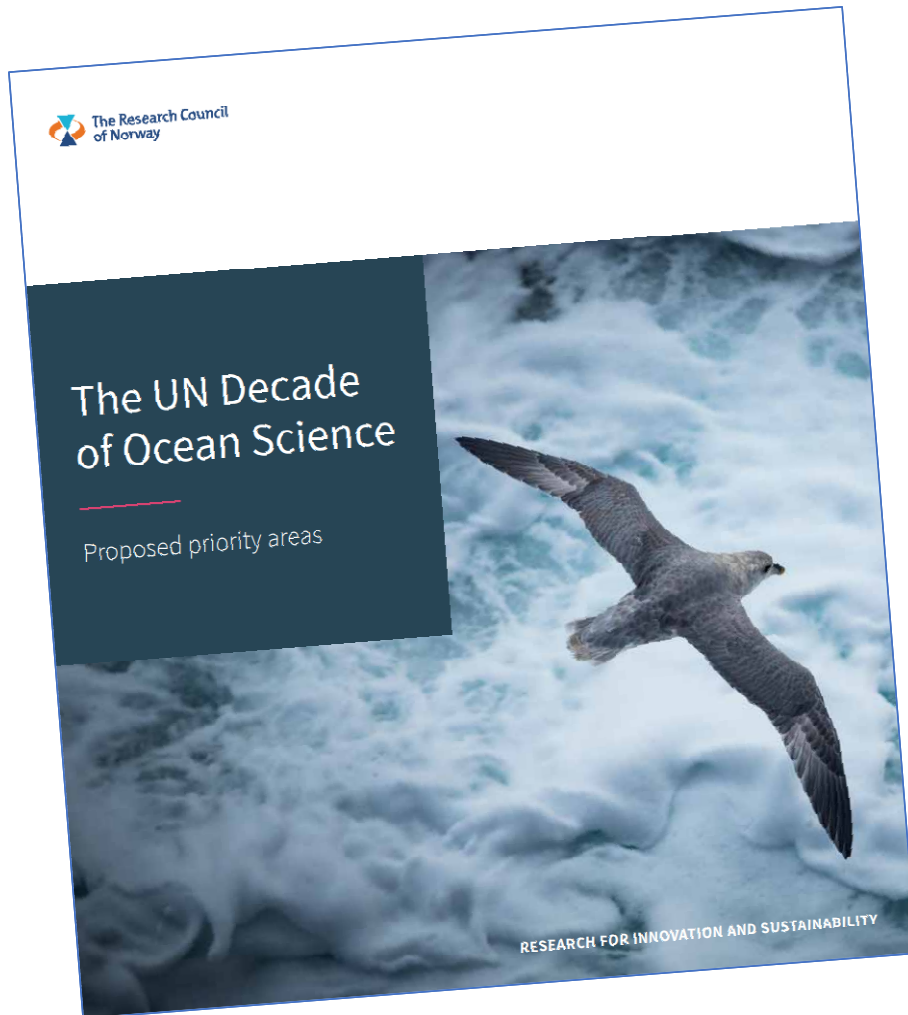
National Ocean Decade Committee of Norway and Programme
Leader of the Arctic Ocean Programme, Norwegian Polar Institute



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An inclusive and holistic Arctic

- one of ten national priority areas



TO ACHIEVE THIS GOAL, WE MUST:

Focus on institutional instruments:

- increase interdisciplinary research collaboration in the Arctic including the coastal populations' local knowledge
- study how the precautionary principle to Arctic management, by sector and overall, can be achieved
- further develop good expert communities and organisations, such as the scientific and political collaboration in the Arctic Council, and use them as models for other areas
- develop better tools to be used by the different Arctic actors and expert communities to solve challenges, and establish new forms of collaboration between them
- develop methodologies to improve cooperation between research and politics

Ensure healthy Arctic waters and ecosystems by:

- increasing knowledge of how physical processes, hydrological and biogeochemical cycles and ecosystems respond to changes in the Arctic across regions (see the section 'Interplay between the climate and environment' for details)
- increasing knowledge of the effects of long-range transported environmental toxins and the consequences for different species
- increasing knowledge about local pollution sources resulting from increased local activity and business development
- increasing knowledge about the overall impact of multiple factors such as climate change, environmental toxins, plastic pollution, ocean acidification, and any commercial activity relating to marine species and ecosystems
- further developing research on sustainable management and the use of new resources, such as harvestable species or bioprospecting finds
- further developing good tools for making interdisciplinary holistic assessments of ecosystems and total human impact, including connections across regions

- developing a knowledge base for assessing marine protected areas in the Arctic
- increasing understanding of how climate change and use of Arctic waters impact and are impacted by local communities

Develop and use technology to:

- improve communication systems for observatories, field research and security and emergency response
- improve modelling tools, observations including sensor technology, and the predictability of forecasts of weather, ocean temperature, sea ice conditions and ecosystems
- ensuring the lowest possible risk in the design and operation of infrastructure and ships in Arctic areas
- strengthening and connecting time series and observation systems across regions
- identify development opportunities in the Arctic, but emphasise minimal climate- and environmental footprints
- improve emergency response in the event of accidents, oil spills, search and rescue by means of real-time monitoring and alerts

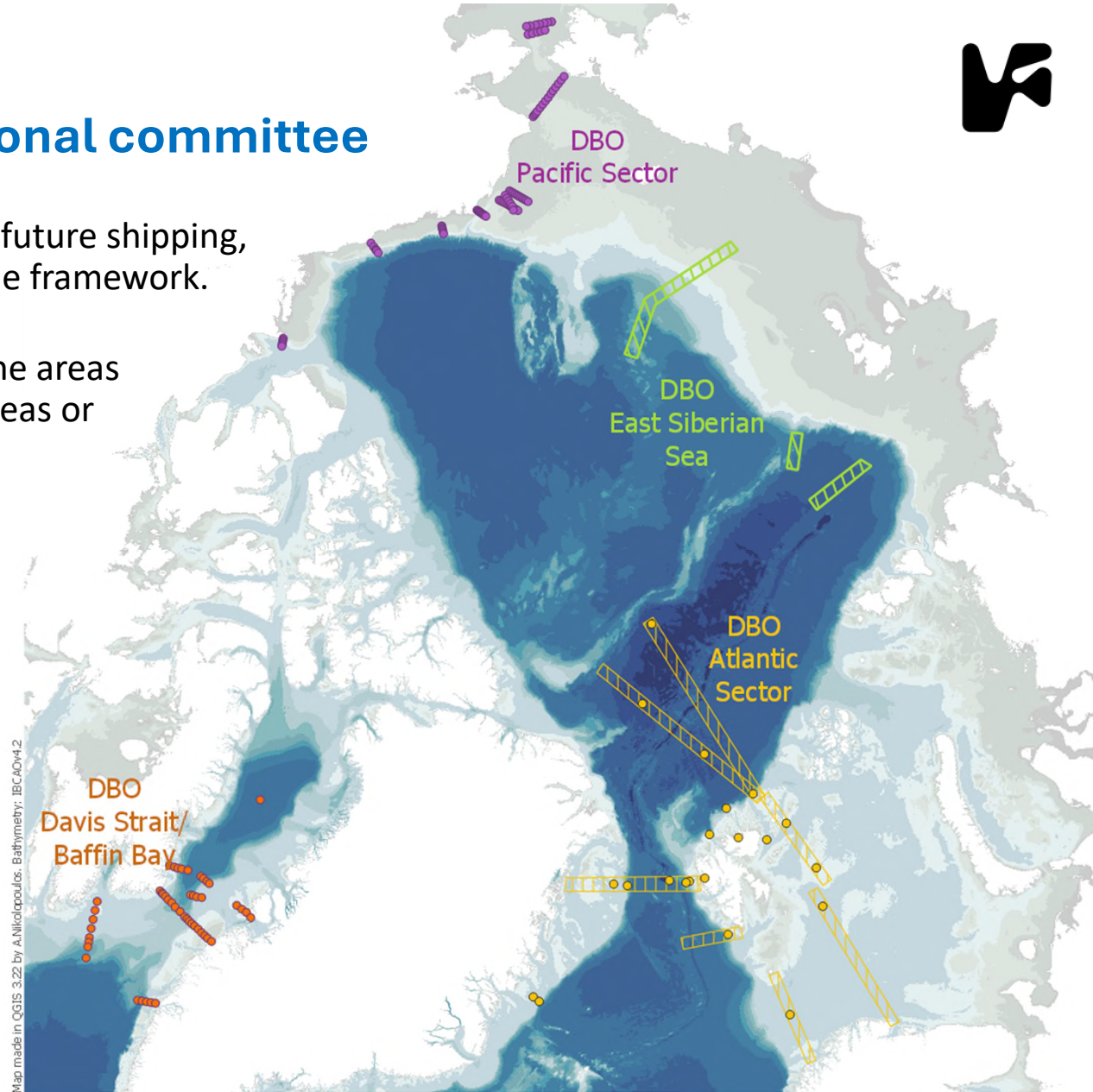


There is a lot of information in the sea ice for biologists, physicists and chemists. Ice cores contain animal and plant life, as well as physical and chemical signatures about origin and sea climate. Photo: Christian Morel, The Nansen Legacy



Norway's UN Ocean Decade national committee

- Build necessary knowledge for management of future shipping, fisheries and other activities within a sustainable framework.
- Knowledge base for protection of 30 % of marine areas – future network of Valuable and Vulnerable Areas or Marine Protected Areas in the Arctic?
- Stronger international inter-disciplinary collaboration is required, with long-term commitments.
- The Pan-Arctic DBO (illustrated on map) is an example of enhanced collaboration allowing for integrated and more holistic understanding of the strongly inter-connected Arctic Ocean. To harvest the potential of such initiatives, international funding mechanisms are required.





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Joseph Nolan

Science Officer,
European Global Ocean Observing System



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ArcticROOS

EuroGOOS Arctic Regional
Ocean Observing System



EuroGOOS

European Global Ocean
Observing System

Joseph Nolan, Science Officer, EuroGOOS

- Science and operational services for the Arctic
- Data is sparse, in situ observations are essential
 - Coordinated planning, FAIR data
- Pan-Arctic ocean observing alliance
 - A flagship outcome of the Decade in the Arctic?
- International Polar Year 2032-2033
 - Opportunity to continue momentum of the Decade

2024 OCEAN DECADE CONFERENCE

The Panel



**Heidemarie
Kassens**

Chair of
International
Arctic Science
Committees
Marine
Working Group



Adrian Lema

National Ocean
Decade
Committee of
Denmark,
Greenland,
Faroe Islands
and Director of
National
Center for
Climate
Research



**Enooyaq
Sudlovenick**

Assistant
Professor,
University of
Prince Edward
Island



Larry Mayer

Leader of the
National Ocean
Decade
Committee of
US
and Director of
Center for
Coastal &
Ocean
Mapping



**Arild
Sundfjord**

National Ocean
Decade
Committee of
Norway and
Programme
leader, Arctic
Ocean
Programme,
Norwegian
Polar Institute



Joseph Nolan

Science
Officer,
European
Global Ocean
Observing
System



**Siri Carson
(Moderator)**

Leader of the
Norwegian
National Ocean
Decade
Committee and
Professor at
NTNU



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Ways forward

- Arctic Ocean knowledge building must happen in equitable partnership with indigenous and local people, and include all knowledge on equal footing.
- The collaborative efforts of the 4th International Conference on Arctic Research Planning and the upcoming 5th International Polar Year are critical for addressing Arctic research priorities, and can lead to significant breakthroughs in understanding and conserving the Arctic environment to promote sustainable development.
- There is a need to build on existing observing networks to establish a Pan-Arctic ocean observing system – this would be a flagship outcome of the Decade for the Arctic.



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Thank you!

Hosted by:

The National Ocean Decade Committees of:

- Canada
- Denmark, Greenland and Faroe Islands
- Norway

and:



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