



Marine Working Group

US Representatives

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Scope

The scientific scope of the Marine Working Group (MWG) includes but it is not limited to any marine natural science or engineering research related to the Arctic Ocean and Subarctic Seas. A strategic planning process has been undertaken to guide research and monitoring priorities aligned with international science planning goals such as those identified by the ICARP process and the UN Decade of Ocean Science Arctic Action Plan.



Marine Working Group

Current Projects/Activities

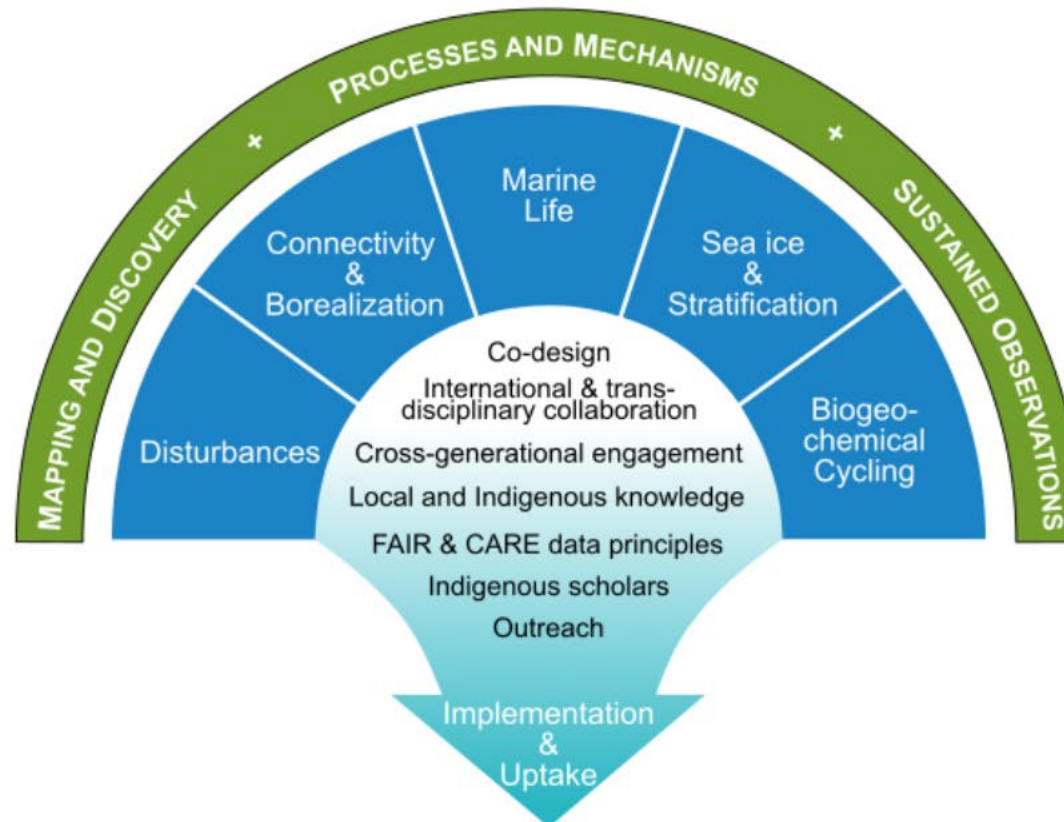
- A Polar Early Career World Summit focusing on early career involvement in ICARP IV & 5th IPY
- IASC-FOX workshop to develop and coordinate input to the ICARP IV engagement phase from an early-to-midcareer perspective
- Chemical, biogeochemical, and physical drivers of the coupled polar atmosphere and climate: an IPY 2032-33 planning workshop
- MARAT: Marine Arctic Resilience, Adaptations and Transformations
- Summer School and Workshop on “Polar Climates: Theoretical, Observational and Modelling Advances”
- QuIESCENT (Quantifying the Indirect Effect: from Sources to Climate Effects of Natural and Transported aerosol in the Arctic) conference
- Polar Educators International’s 6th International Conference and Workshop: Facilitating Collaboration among Educators, Researchers, and Indigenous Communities - From Knowledge to Action”

Critical Issues Being Discussed

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)



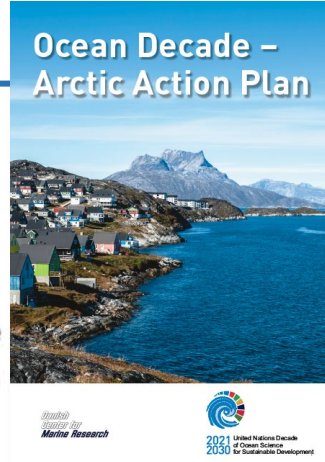
UN Ocean Decade Arctic Action Plan

Research challenges

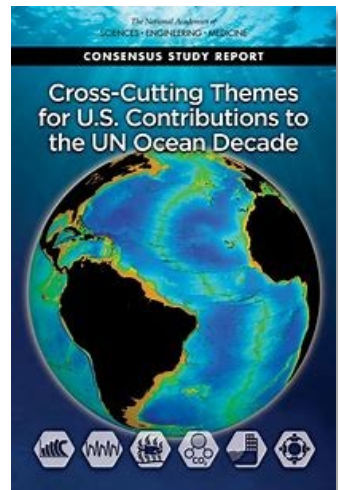
- Mapping and understanding Arctic ecosystem services (TS1)*
- Understand how anthropogenic pressures impact environmental health and resilience (TS2)*
- Understanding the Arctic ocean-climate nexus and ecosystem dynamics (TS2)*
- Coordinated sustained observations of the status and development of Arctic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

Organizational challenges

- Collaborating and coordinating Arctic research and observations*



2021



2022



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Future Directions

MWG Workshops (May-June 2024)

- Marine Life
- Sea Ice and Stratification
- Disturbances
- Biogeochemical Cycles
- Connectivity and Borealization

MWG + IASC FOX (September 2024)

- Incorporation of resulting strategic documents into the ICARP IV process (2024-2026)

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

- Pan-Arctic Distributed Observatory (NordForsk/NSF), Lee Cooper
- Pan-Arctic Ocean Observing Alliance (Global Ocean Observing System, goosocean.org), Craig Lee

*Potential Arctic-focused
flagship outcomes of
the UN Decade of
Ocean Science*



IPY5 (2032-2033)