The Marine Environmental Observation, Prediction and Response Network:

An Interdisciplinary, Networked Approach to Building Canada’s Marine Research Capacity

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The Critical Role of Networks in Canadian Ocean Science

- Three ocean basins; several major marginal seas
- Vast, diverse and often remote coastline
- Massive distances; multiple languages and cultures, including Indigenous cultures
- Distributed research capacity: geographically and sectorally (government/academia)
A National Network Focused on Marine Risk

Marine Environmental Observation, Prediction and Response Network

- Connect academia, government, NGOs, industry, communities
- Emphasis on end-user engagement
- Cross-disciplinary: natural and social sciences

64 research projects;
123 researchers at 27 universities

475 Highly Qualified Personnel trained across Canada

7 Network partners and 167 project partners

Where our funds go:
MEOPAR: Observation, Prediction and Response to address the interaction between human activity and the marine environment.

Research Program Examples

Environmental Risk

- Climate change
  - Ocean acidification: impact on shellfish aquaculture;
  - Ocean deoxygenation;
  - Impacts of sea-level rise and sea-ice reduction

Marine weather, conditions and hazards

- New approaches to improve marine weather forecasting;
- Fog prediction; sea-ice dynamics; wave models

Human activity and impacts

- Modeling and model validation to improve response to oil spills;
- Shipping impact on marine mammals (collisions; noise);
- Shipping and Northern communities

Human-derived Risk
MEOPAR’s Purpose

The MEOPAR network:
• Funds research
• Trains Highly-Qualified Personnel (MEOPeers)
• Develops strategic partnerships
• Supports knowledge mobilization (KM) in marine challenges and opportunities for the benefit of the Canadian economy and society
Training by the Numbers

- Over 700 MEOPeers trained since 2012
- One in three MEOPeers are international students or early-career researchers working in Canada
- Gender breakdown:
  - 58% female, 41% male, 1% non-binary
- Four key geographic regions
Training Based on Core Content Areas

• MEOPAR's four outcome areas – Ocean Observation; Forecasting and Prediction; Coastal Resilience; and Marine Operations and Transportation;
• Knowledge Translation and Science Communication;
• Interdisciplinary Research; and
• Career Development
Investing in Students and Early-Career Researchers in Canada:

• MEOPAR Postdoctoral Fellowship Awards:
  • $680,000 CAD awarded to 17 postdocs (2018-2020)
  • 2020-21 call for applications now open

• Early Career Faculty grants
  • $2,853,971 CAD awarded to 29 early career faculty; 12 awards in 2014 and 17 awards in 2018

• Travel and Training awards:
  • Cost-shared awards allow trainees to pursue self-identified, specialized training
  • Over 75 trainees received training and travel funding from 2017-2020
Training and Capacity Building for the Future of Marine Research

MEOPAR’s training program builds capacity in interdisciplinary research and 21st-century skills related to marine environmental risk and the required response and policy strategies.

• Work-integrated learning through interdisciplinary research projects
• International Research Internships and Visiting Scholarships
Training & Capacity Building for the Future of Marine Research

MEOPAR’s training program:

• Is recognized for strong connections to marine sector partners
• Emphasizes interdisciplinary networking and collaboration

MEOPeers and alumni point to the focus on cross-Canada networking, unique opportunities for stakeholder and community engagement, and leadership and career-building opportunities as key benefits they experience as MEOPeers.
Value-Added Experiential Learning

- An Annual Training Meeting and workshops on Science Communication, Marine Planning, Women in STEM, and High-Performance Computing
- Emerging partnerships with other national and international networks
Thank You!

For more information on MEOPAR and the Training Program, please visit www.meopar.ca