

# THE MEOPAR NETWORK of CENTRES OF EXCELLENCE

## First Open Call for Proposals (2013-2016)

### General Information

Established in 2012, the Marine Environmental Observation Prediction and Response Network of Centres of Excellence (MEOPAR) is building partnerships and a team of outstanding Canadian researchers to address critical issues related to human activity in the marine environment, and the impact of marine hazards on human activities in coastal regions. MEOPAR's vision is to inspire and enable Canadian leadership in marine environmental observation, prediction and response. MEOPAR will deliver knowledge, technology, and people to enable Canada's communities and industry to enhance resilience and economic opportunity through an informed relationship with the changing marine environment.

MEOPAR's seven goals, through which it will deliver on its vision are:

- ***An operational network:*** Promote an operational network for marine observation, prediction and response along Canada's coastline through a cooperative approach linking Government agencies, academia, municipalities, non-governmental organisations and ocean-related industries.
- ***Information and knowledge exchange:*** Improve sharing of information and knowledge between communities, private and public sectors, non-governmental organizations, academia and government in order to improve response capability and resilience in the face of changing patterns of risk in the marine environment.
- ***Northern hazard assessment:*** Provide scientific information and evaluation of marine hazards to guide economic and community development in Canada's northern marine environment.
- ***Private-sector participation:*** Strengthen Canadian private-sector expertise in marine environmental observation, prediction and response and promote this expertise to address national and international problems
- ***International cooperation:*** Promote international cooperation in marine environmental observation and prediction, including adoption and leverage of international best practices and expertise for the benefit of Canadians.
- ***Fundamental research:*** Enhance resilience through development of new understanding of marine hazards and associated vulnerabilities, and improved ability to predict and project risk.
- ***Economic opportunity:*** Create economic opportunity through enhancement of resilience as well as through commercialization and application of new approaches to marine observation and prediction.

The MEOPAR Network works closely with government agencies, industry and international partners to develop new mechanisms for the sharing of expertise, data, infrastructure, and approaches relevant to anticipating and responding effectively to marine emergencies. With a projected lifetime of up to 15 years MEOPAR will have fundamental impacts on Canada's preparedness in the face of marine hazards.

MEOPAR's research program has begun with a set of 4 "Initial Projects" organized under two research themes. **Theme 1** has a focus on improving the ability of government and private sector to respond to existing and emerging marine hazards on time scales of **hours to seasons**. **Theme 2** aims to develop and test techniques aimed at improving the ability of government, the private sector, and coastal communities to anticipate, prepare and adapt to developing marine risks on time scales of **seasons to a century**.

The Network is supported by a Prediction Core and an Observation Core. These provide cross-cutting technical and scientific support across the projects.

The four initial projects are now underway (see [www.meopar.ca](http://www.meopar.ca)). The Network will be expanded by funding several new projects via Open Calls for Proposals that will take place in 2013 and 2014. These Open Calls are intended to broaden participation in the Network and allow the Network to address its strategic research objectives. This announcement represents the Network's first Open Call.

### **Open Call for Proposals**

**Project Duration and Funding Levels:** For the first Open Call, MEOPAR envisions allocation of a total of \$650,000 to support between 1 and 3 projects over the period October 2013 through April 2016. Two types of projects will be considered: a) multi-year, integrated projects covering the entire funding period; or b) smaller-scale projects of up to one year duration. The shorter duration projects could be used to tackle a specific research topic or a synthesis activity that can be addressed within that timeframe, or could be used to build consortia or partnerships to evaluate issues that may be suitable for longer duration projects under future Open Calls. The longer duration projects, while initially funded for up to 3 years, would have the opportunity to propose follow-on activities, based on successful progress and peer-review, which would allow for a maximum project duration of 5 years. MEOPAR envisions funding of 1 longer-term project and up to 2 shorter duration projects as a result of this call. Note that all MEOPAR projects are subject to yearly reporting and review requirements.

**Project Areas and Topics:** A list of suggested topics for projects to be funded under the Open Calls was included in the MEOPAR proposal. For this first Open Call, the following topics are judged to be of particular relevance and timeliness:

#### **1. Marine Dispersion and Response to Emergencies**

Dispersion is a fundamental characteristic of the marine environment that strongly impacts the risk to humans and sensitive ecosystems associated with marine accidents or emergencies, as well as the associated response strategies. Problems of locating, tracking and predicting the distribution of introduced objects or substances in a strongly dispersive environment are common to many different types of emergencies including contaminant and oil spills, harmful algal

blooms, search and rescue, etc. Dispersion can also lead to uncertainty in the identification of impacted communities and ecosystems as well as jurisdictional confusion, which can complicate response. This open call will solicit proposals for specific experiments and studies focused on integration and application of observing and contaminant tracking technologies, models, as well as risk assessment, communication and response strategies for emergencies involving dispersion of objects, organisms or substances at sea.

## **2. Consequences of Ocean Acidification and Climate Change for Regional Ecosystems, Marine Resources and their Management**

Large scale, long-term changes in the ocean's physical and biogeochemical state (e.g. temperature, circulation, oxygen and acidification) have potentially major consequences for marine ecosystems and living marine resources. There is, for example, growing concern about the impact of acidification of ocean waters associated with the uptake of anthropogenic CO<sub>2</sub> by the oceans. The impacts of these globally-forced changes are felt at regional and local scales. Proposals are solicited that investigate impacts of climate change and/or ocean acidification on sensitive marine ecosystems, or on specific commercially important or endangered species.

## **3. Seasonal Prediction and Living Resource Management**

The use of long-range forecasts for agriculture is well established and has been widely researched. In contrast, the use of such forecasts of marine conditions for guidance of the management of harvested marine ecosystems, or aquaculture operations, is limited. This is despite the fact that environmental conditions (e.g. temperature, dissolved oxygen) are known to have significant effects on recruitment, growth and mortality and can be forecast. This open call will support studies of the application of seasonal predictions of ocean conditions, including extreme events and biogeochemical properties, to the management of ecosystems or aquaculture.

## **4. Community-Based Investigation of Global Change Impacts on the Marine Environment**

Science-based predictions and warnings of the impacts of global change sometimes lack direct connection to the local communities that are likely to be impacted. In part, this has to do with the nature of scientific research, which is conducted by groups with specialized expertise and restricted access to the necessary infrastructure, funding mechanisms and information exchange mechanisms. Via this open call, MEOPAR will initiate one, or several, "bottom-up" assessments of the impacts of global-scale changes on coastal communities, or on specific Canadian marine ecosystems. The assessments could range from highly localized studies (e.g. of a specific city, bay, beach or lagoon) up to regional scales. Projects could include experimental studies, historical research, collection of local knowledge, establishment of coastal observations by communities, schools or NGOs, application of model predictions to local marine resource and economic issues, as well as education, policy formulation and planning.

**These are, however, only suggested topic areas and additional topic areas that address MEOPAR's vision and strategic objectives can be proposed.**

Any proposed project must address clearly the strategic objectives of MEOPAR's first funding cycle (see [www.meopar.ca](http://www.meopar.ca)). The following objectives are particularly relevant to this Call for Proposals:

- Develop new tools and technologies for rapid environmental assessment and forecasting during marine environmental emergencies.
- Link projection of future changes in storms, coastal flooding, waves on local scales with consideration of economic impacts, safety, planning, and policy.
- Assess the impact of long term, oceanic change on Canadian coastal communities, ecosystems and economic interests, including implications for resource management, regulation and policy.
- Introduce new approaches for training of highly qualified personnel with skills in the natural and social sciences and their use in solving problems related to marine risk.
- Implement new approaches for sharing natural and social science expertise, data and infrastructure in order to respond more effectively to marine emergencies.

**Structure of Project Teams and Eligibility:** The MEOPAR Network seeks to build multi-sectoral and multidisciplinary partnerships. Hence MEOPAR projects should normally involve researchers from different disciplines (natural and social sciences) and involvement of multiple sectors (e.g. academia, private sector, government, NGOs) working together. The expected degree of multidisciplinary will be greater for longer duration projects. Applicants are encouraged to build on existing initiatives and projects where appropriate and include international participation when relevant.

Projects and activities are generally expected to address topics with a combination of natural AND social science expertise. Furthermore, applicants are expected to engage suitable partners, from private industry, government or other organizations, to ensure the effective use of research results for real world problems. MEOPAR is especially interested in supporting research that has clear evidence of user-involvement in the identification of the research topic to be addressed and the formulation, support and conduct of the research itself. Special consideration will be given to projects that receive support from external partners (via letters of support that identify in-kind and/or cash support). Applicants are also encouraged to consider and explore alignment of their proposed research activities with ongoing and proposed research of MEOPAR's government partners (see [www.meopar.ca](http://www.meopar.ca)).

Researchers and organizations that intend to receive MEOPAR funding must meet the general eligibility conditions of one of the three granting councils, NSERC, SSHRC and the CIHR. **Investigators that intend to receive NCE funding are limited to involvement on a maximum of two Letters of Intent. In order to ensure independence at the review stage, members of MEOPAR's Research Management Committee are not eligible to receive funding from this Open Call.**

**Procedure:** Applicants considering submission of a project application should first consult MEOPAR’s Strategic Plan and current Research Plan, both of which are available online at [www.meopar.ca](http://www.meopar.ca).

Applicants should first submit a short Letter of Intent. The Letter of Intent should be a maximum of three pages long, single-spaced (no more than 6 lines per inch), Times New Roman, regular 12 point font (or comparable font, nothing smaller), margins 0.75” all around. One additional page can be used to define the composition and qualifications of the proposed research team. References, if included, can be provided on one separate page. Pages should be numbered and there should be a header including name of lead PI and the Project Title.

Letters of Intent should include the following:

- Problem(s) to be addressed, including overview of the state-of-the-art.
- Outline of research approach and desired outcomes.
- Social/policy issues to be addressed (if relevant)
- User involvement and external partnerships.
- Specific contributions to MEOPAR’s Vision and Strategic Objectives
- Qualifications and expertise of the research team
- Timeline
- Longer-term perspectives (i.e. beyond lifetime of the project, if any)
- Approximate budget (by year) according to following table:

Category	Year 1	Year 2	Year 3	Totals
Personnel				
Materials Supplies, Dissemination				
Travel				
Equipment (>\$10K, please specify)				
Totals				

**Letters of Intent must be received by email (in PDF format) by 0700h Atlantic Standard Time on Tuesday 19<sup>th</sup> February 2013. Please email to: [mary-lynn.dickson@dal.ca](mailto:mary-lynn.dickson@dal.ca) with “MEOPAR LOI” in the subject line.**

**Evaluation:** Letters of Intent will be reviewed and assessed by MEOPAR’s Research Management Committee (RMC). Evaluation of the Letters of Intent and recommendations for the solicitation of full proposals will be forwarded to MEOPAR’s Board of Directors and final solicitation of full proposals will take place in early March 2013. Full proposals will be due by mid-April with funding decisions expected to be communicated by June 2013. Financial awards should be in place by October 2013, contingent on signing of Network Agreements.

The criteria for the review of the proposals will be:

- (1) Merit of the proposal
- (2) Excellence and interdisciplinary balance of the team
- (3) Alignment with MEOPAR objectives
- (4) Multi-sectoral structure and support
- (5) Contributions to the training of high quality personnel

Questions about this open call can be referred to:

Dr. Mary-Lynn Dickson  
Interim Network Manager  
MEOPAR

902-494-4080  
mary-lynn.dickson@dal.ca