DFO-NOAA Ocean Acidification Collaborative Funding Initiative FY25

BACKGROUND:

Canada and the US share transboundary resources and remits on Pacific, Arctic and Atlantic coasts, each with a federal need for science-informed decision making. Despite these common concerns, there are few coordinated research and monitoring efforts between Canada and the United States. North American leadership acknowledged the potentially significant impacts of ocean acidification (OA) on the management of coastal resources, with a need for global leadership and enhanced scientific transboundary cooperation. This need led to the development of a joint partnership between the Canadian Department of Fisheries and Oceans (DFO) and the U.S. National Oceanic and Atmospheric Administration (NOAA) under the governance of the *Collaborative Framework for Joint DFO/NOAA OA Research and Monitoring* in 2017.

The goals of the DFO-NOAA OA Coordination Committee are to enhance scientific exchange and knowledge mobilization related to the impacts of OA on shared marine resources, share and develop consistent research methodologies related to the effects, monitoring, and mitigation of OA, and identify opportunities for collaborative synergies between Canada and the United States while encouraging support of early career scientists (ECS). Two working groups were established to further refine these goals.

The objectives of the Ocean *Monitoring & Modeling (OMM) Working Group* are
(1) to identify regional hotspots or other high-priority areas of mutual concern,
(2) to design and execute process studies via coordinated cruises in areas of mutual concern, &
(3) to identify and fill infrastructure gaps that hinder geochemical understanding of OA.

The objectives of the *Research, Experimentation & Modeling (REM) Working Group* are
(1) to identify the vulnerability of mutually-exploited or ecologically important marine species,
(2) to determine the appropriate actions necessary for protecting species of concern, &
(3) to identify and fill infrastructure gaps that hinder biological understanding of OA.

The OMM Working Group has made substantial progress in improving monitoring and analysis practices, as well as identifying key areas of joint concern for consistent annual monitoring. The REM Working Group has also contributed significantly to advancing experimental design and the production of scientific information regarding the impacts of ocean acidification on species of mutual concern. Improved collaboration has proven to benefit both countries through increased capacity and shared knowledge, conducting joint monitoring activities and research projects, developing synthesis products

(e.g. overlapping model domains, species vulnerability assessments, and publications) and linking to other OA initiatives (e.g. GOA-ON North American Hub).

This partnership is ongoing, building from individual country and bilateral research to support federal science OA information needs. Since 2020, DFO and NOAA have each provided $50,000 annually to help support research and monitoring projects, led by Working Group members from both countries, to advance the priorities and goals of the Collaboration.

For FY25(DFO FY: April 2025-March 2026; NOAA FY: October 2024-September 2025) the Collaboration is emphasizing the important contribution of **students, post-docs, and early career scientists**. The DFO-NOAA OA Coordination Committee is now requesting proposal submissions from students, post-docs, and early career scientists (within **ten** years or less of professional experience) for relevant collaborative projects related to the goals of the NOAA-DFO Collaboration Framework and identified research priorities. The award funds will be available for DFO's fiscal year 2025 (April 2025-March 2026) and NOAA's fiscal Year 2025 (October 2024 - September 2025).

WHO CAN APPLY:

The project team must be bilateral, i.e., have members of the project team on both sides of the border. Each proposal must also have at least one Working Group sponsor/collaborator; please see list of Working Group members on pages 5-6. The Working Group (WG) members could either be engaged directly on the project or take on an advisory role (DFO-NOAA WG members ensure the project aligns with WG aims and fosters DFO-NOAA collaboration, and is kept informed about the progress of the effort). Although it is encouraged that lead PIs be students, post-docs or early career scientists, it is also possible to request funding for a project led by a DFO-NOAA team in the process of bringing on a new student, post-doc, or early career scientist to conduct the work. In either case, an associated senior PI must be listed in the proposal to assist with logistical details (e.g. funding transfer, support, etc.).

SIZE AND DURATION OF AWARDS:

Subject to final appropriations, NOAA and DFO will be contributing $50,000 USD and $50,000 CAD, respectively, to this initiative. Applicants should also be aware that NOAA and DFO can only supply funding to PIs within their respective institutions and countries. Therefore, applicants should explicitly note in their budgets how much of the requested award should be awarded to which institution. Applicants are *strongly encouraged* to submit total budgets that reflect the resources needed to complete the project objectives, with maximum targets of $20,000 USD or $20,000 CAD. NOAA resources associated with this award must be fully obligated by the end of USA FY 2025 (September 30, 2025), either expended at the NOAA facility and/or obligated through a cooperative agreement or contract. Likewise, funds received from DFO must be obligated by the end of CAN FY 2025 (March 31, 2026).

PRIORITIES:

The DFO-NOAA OA Coordination Committee may award up to six projects, depending on the proposed budgets. However, the Committee will remain flexible and fund the proposals that best fit the scope of this initiative, including those that combine elements of both working groups. In addition to clearly addressing the objectives of the OMM and/or REM Working Groups, the most competitive proposals will also incorporate elements from the priority areas listed below (see next page). **Note, no project is expected to meet all priority areas.**

- *Projects that leverage additional funds to expand the capacity of the work beyond what can be accomplished with this award alone.*
- *Projects that address stakeholder interests, have conservation or cultural connections, and/or relate to commercial and economic interests.*
- *Projects aligned with the NOAA OAP Research Plan 2020-2029, the priorities of DFO's Aquatic Climate Change Adaptation Services Program, and/or the United Nations Sustainable Development Goal 14.3.*
- *Projects that align with the DFO-NOAA OA Collaboration goals and objectives as identified below:*
  - *Data intercomparison activities (ie buoy or sensor comparisons to learn best best practices or contract regional data)*
  - *Coastal OA monitoring responsive to REM goals*
  - *Data collected in support of multi-stressor or ecosystem-level analyses*
  - *Ocean Carbon Certified Reference Materials activities/development*
  - *Indigenous engagement and/or best practices for community engagement*
  - *Transboundary species vulnerability studies*
  - *Great Lakes acidification studies*
  - *Benthic systems research*
  - *Geographical comparisons of OA impacts*
  - *Water quality thresholds related to OA*
  - *Marine Carbon Dioxide Removal (mCDR)-related science activities, including monitoring, reporting, verification, and/or impact assessments*
- *Projects can also incorporate training, workshops, laboratory visits, or other forms of knowledge and skill transfers between NOAA and DFO, and/or leverage research cruises or other forms of field work, to facilitate the advancement of partnership goals.*

FUNDING EXCLUSIONS:

If outside collaborators are included, NOAA or DFO Working Group contacts are responsible for transferring funds to the outside partners. If you are requesting DFO funding, please explain how you plan to use the funding to support the student (e.g. hiring through the Federal Student Work Experience Program (FSWEP), a co-op placement, a casual contract, etc.). ***Please note there is no mechanism for transferring funds from DFO to an external organization.***

REVIEW CRITERIA:

The following criteria will be utilized to review and rank proposals:

1. Is the proposed project bilateral and does it advance transboundary collaboration?
2. Does the proposal have a well-articulated justification, clear objectives, and sound methods?
3. Does the proposal list reasonable metrics for success? What deliverables will be produced from the project?
4. Does the proposal clearly demonstrate how the project addresses the objectives of the working group(s)?
5. Does the proposal clearly demonstrate how the project would benefit / contribute to the career goals/advancement of the proposers?
6. How well does the proposal incorporate any of the stated priorities and advance partnership goals?
7. Is the proposed budget justifiable and enough to get the work done?

The PIs of selected projects will be requested to attend (either virtually or in-person) the annual DFO-NOAA collaboration meeting to present on their project activities and results. The cohort of fund recipients are encouraged to collaboratively engage via existing communication networks and to share best practices.

TIMELINE:
Submission deadline: January 17, 2025
Review period: January 20, 2025
Awards announced: January 31, 2025
Projects start: April 1, 2025
Projects end: March 31, 2026
DFO funding fully obligated: March 31, 2026
NOAA funding fully obligated: September 30, 2025

Recipients will be required to submit semi-annual updates on progress made towards project milestones/deliverables as well as provide information on leverage, outreach, etc. The project team is also required to prepare an end of project report, minimum 2 pages, outlining the outcomes of the project, as well as a presentation to be provided at next year's annual meeting.

Milestone and Deliverables Chart and Timeline: Insert a chart of major milestones and deliverables for important intermediate and final products as well as expected timelines using the Milestones and Deliverables template (see here). Milestones should be quantifiable with expected dates of completion. Address potential time or operational constraints, especially with regard to field operations. Proposals should have at least one milestone and one deliverable. If selected, this information will be used for project semi-annual progress updates.

SUBMISSION:
Email all proposals to Christine Stortini at Christine.Stortini@dfo-mpo.gc.ca AND Alexandra Puritz at alexandra.puritz@noaa.gov by 23:59 EDT on January 17, 2025.

QUESTIONS:
Please email any questions to Christine Stortini at Christine.Stortini@dfo-mpo.gc.ca AND Alexandra Puritz at alexandra.puritz@noaa.gov.

PROPOSAL GUIDANCE:
All proposals are to follow the template below (see page 8) regarding content and length. All margins are to be 2.5 cm (1 inch) and text font in 12-point.

WORKING GROUP MEMBERS:

DFO Representatives:

Name	Email	Expertise
Azetsu-Scott, Kumiko	Kumiko.Azetsu-Scott@dfo-mpo.gc.ca	Atlantic: Nearshore, coastal and open ocean biogeochemistry. Observations
Capelle, David	David.Capelle@dfo-mpo.gc.ca	Arctic: Nearshore, coastal and open ocean biogeochemistry, greenhouse gas flux. Observations
Christian, James	James.Christian@dfo-mpo.gc.ca	Pacific: Coastal and open ocean biogeochemistry. Numerical models.
Clements, Jeff	Jeffery.Clements@dfo-mpo.gc.ca	Atlantic: Benthic invertebrates. Experimental.
Covert, Paul	Paul.Covert@dfo-mpo.gc.ca	Pacific: Nearshore and coastal biogeochemistry. Observations.
Currie, Warren	Warren.Currie@dfo-mpo.gc.ca	Great Lakes: Lower-trophic food web dynamics. Biophysical modeling.
Maillet, Gary	Gary.Maillet@dfo-mpo.gc.ca	Atlantic: coastal and open ocean biogeochemistry. Observations.
Doka, Susan	Susan.Doka@dfo-mpo.gc.ca	Great Lakes: Fish and habitat science. Modeling.
Drolet, David	David.Drolet@dfo-mpo.gc.ca	Atlantic (Quebec): Quantitative ecology. Experimental.
Gurney-Smith, Helen	Helen.Gurney-Smith@dfo-mpo.gc.ca	Atlantic: Vulnerability and species modeling. Experimental.
Ianson, Debby	Debby.Ianson@dfo-mpo.gc.ca	Pacific: nearshore, coastal and open ocean biogeochemistry. Observations and numerical models.
Lavoie, Diane	Diane.Lavoie@dfo-mpo.gc.ca	Atlantic: coastal and open ocean biogeochemistry. Numerical Models.
Matthes, Lisa	Lisa.Matthes@dfo-mpo.gc.ca	Arctic: Marine optics and biogeochemistry, Observations.
Miller, Lisa	Lisa.Miller@dfo-mpo.gc.ca	Arctic: Coastal and open ocean biogeochemistry. Observations.
Niemi, Andrea	Andrea.Niemi@dfo-mpo.gc.ca	Arctic: Microbial ecology. Heterotrophic carbon cycling. Experimental
Oldford, Greig	Greig.Oldford@dfo-mpo.gc.ca	Pacific: Integrative ecology. Data Analysis. Ecosystem modeling

Pearce, Chris	Chris.Pearce@dfo-mpo.gc.ca	Pacific: Shellfish aquaculture. Experimental
Pucko, Monika	Monika.Pucko@dfo-mpo.gc.ca	Great Lakes: Biogeochemistry, toxins, food-web dynamics. Experimental
Quinn, Brady	Brady.Quinn@dfo-mpo.gc.ca	Atlantic: Fisheries and aquaculture. Larval development. Modeling & Experimental.
Small, Daniel	Daniel.Small@dfo-mpo.gc.ca	Atlantic (Quebec): Ecophysiology. Experimental
Steiner, Nadja	Nadja.Steiner@dfo-mpo.gc.ca	Arctic: Coastal and open ocean biogeochemistry. Numerical modeling.

NOAA & NOAA-Affiliate Representatives:

Name	**Email**	**Expertise**
Bjorkstedt, Eric	eric.bjorkstedt@noaa.gov	Pacific: Fisheries oceanographer. Experimental.
Cai, Wei-Jun	wcai@udel.edu	Atlantic (Gulf of Mexico): Coastal and open ocean biogeochemistry. Observations.
Chambers, Chris	chris.chambers@noaa.gov	Atlantic: Research fishery biologist. Experimental
Errera, Reagan	reagan.errera@noaa.gov	Great Lakes: Phytoplankton ecology & Harmful Algal Blooms. Observations, Experimental, Modeling.
Gomez, Fabian	Fabian.Gomez@noaa.gov	Atlantic (Gulf of Mexico, South Atlantic, Caribbean Sea): Carbonate system variability. Biogeochemical modeling.
Huebert, Klaus	klaus.huebert@noaa.gov	Atlantic: Fish early life-history, biological oceanography, fisheries ecology. Modeling
Hunt, Chris	chunt@unh.edu	Atlantic: Gulf of Maine, nearshore, coastal, and estuarine biogeochemistry, Monitoring, Observations, Laboratory measurements
Hurst, Thomas	thomas.hurst@noaa.gov	Arctic (Alaska): Fisheries ecology. Experimental
McElhany, Paul	paul.mcelhany@noaa.gov	Pacific: Species response. Experimental. Ecosystem modeling.

Melrose, Chris	chris.melrose@noaa.gov	Atlantic, Northeast U.S. continental shelf. Hydrographic, biogeochemical and plankton observations.
Meseck, Shannon	shannon.meseck@noaa.gov	Atlantic: Aquaculture. Biogeochemistry. Species response. Experimental.
Pilcher, Darren	darren.pilcher@noaa.gov	Pacific: coastal and open ocean biogeochemistry. Numerical models.
Salisbury, Joseph	joe.salisbury@unh.edu	Atlantic: Coastal and open ocean biogeochemistry. Observations.
Siedlecki, Samantha	samantha.siedlecki@uconn.edu	Atlantic: Coastal and open ocean biogeochemistry. Numerical Models.

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Project Title: Please give your project a clear, descriptive title.		
Geographic Region: Arctic, Atlantic, Pacific, and/or Great Lakes		
Keywords: List 3-5 keywords that describe your project		
Amount of requested funding: Enter the total cost of the project. Note that NOAA and DFO can only supply funding within their institutions	**USD (from NOAA)**	**CAD (from DFO)**
Principal Investigators (PIs): Please include your name, NOAA/DFO affiliation, email address and a brief description of how this project would benefit / contribute to your career goals/advancement. Add more rows as required.		
Senior PI support: Please provide the name, NOAA/DFO affiliation, and email address of an associated senior PI (member of NOAA DFO WG) to assist with logistical details		
Working Group Sponsor(s)/ Collaborator(s) Please include their name, NOAA/DFO or academic/NGO affiliation, and email address. Also provide a brief (1-3 sentence) summary of how the sponsor/collaborator is connected to this proposal.		

Project Description (300 words max): Provide a brief overview of the project outlining how it is aligned with the objectives of the OMM or REM Working Group, or the DFO-NOAA OA Collaboration as a whole.
Project Objectives (200 words max): Please provide clear and specific objectives for your project.
Methodology (300 words max): Outline the methods you will use to achieve the objective(s) of the project. Please be explicit about how this project leverages other NOAA or DFO investments.

Workplan and Timeline (200 words max):
Please use bullets to provide a clear and concise plan and timeline for accomplishing your proposed work. This may include activities related to your proposal but occur shortly before or after the funding period. However, be sure to identify which activities will and will not be covered by this funding.

Deliverables (200 words max):
Briefly describe the main project deliverables expected. These may include, but are not limited to, oceanographic and biological data, model outputs, knowledge and skill transfer between American and Canadian researchers, joint workshops, publications, and outreach and education materials

Budget:
Please provide a budget and a brief justification for each major expense category (e.g. personnel, materials/supplies, travel, publishing, other direct costs, and indirect costs). Explicitly note which institution, DFO or NOAA, should supply the funds for each budget item and report the value of each item in either CAD or USD, respectively. Additionally, please note the total amount requested from each institution. If you are requesting funding from DFO please explain how you plan to get the funds to the ECS/student.

Funding Requirements	**USD** (from NOAA)	**CAN** (from DFO)	**Justification**
Student Salary			
Contract(s)			
Materials & Supplies			
Equipment			

IT costs			
Publication / printing			
Translation expenses			
Travel			
Other			
Total Ask			
Other sources of funding:			
1. 2.			
References Cited: Provide a list of citations referenced elsewhere in your proposal.			