



Mid-Atlantic Coastal Acidification Network

Background

[MACAN \(the Mid-Atlantic Coastal Acidification Network \(MACAN\)\)](#) is a virtual network of researchers, educators, decision-makers, industry representatives, policy experts, and federal, state, local, and tribal leaders whose mission is to advance knowledge and understanding of the effects of coastal and ocean acidification (COA) and promote regional collaboration to advance this knowledge. MACAN is co-supported by the Mid-Atlantic Regional Council on the Ocean (MARCO) and the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS).

Previous MACAN projects compiled regional carbonate chemistry datasets (dissolved inorganic carbon [DIC], total alkalinity [TA], pH, and $p\text{CO}_2$) and associated calculated acidification variables. In addition, a thorough meta-analysis of recorded biological impacts to various life stages of species of biota found throughout the Mid-Atlantic was also conducted and is expected to be published as a peer-reviewed manuscript in early 2026. The carbonate chemistry data, combined with the information on impacts to species (both held within MACAN's private collection), will be used to conduct a comprehensive assessment of areas in the Mid-Atlantic that are most vulnerable to poor water quality due to low pH and related chemical stressors.

Project Approach: Tasks, Deliverables, and Timeline

Project Description

MACAN is seeking a contractor who will combine biological and chemical data to develop a single metric to define ecological in-situ vulnerability over spatial scales from the MACAN datasets. The data synthesis will derive a metric to quantitatively and qualitatively characterize locations where potential vulnerable species live during at least one of their life stages based on their relative vulnerability to poor water quality due to low pH (acidification and/or acidic events).

The contractor will develop all scientific materials associated with this task. The target audience for the deliverables from this project are, first and foremost, state agency natural resource managers and state level natural resource planners. Additional suggested deliverables can be targeted to other audiences.

No laboratory or field work will be supported by this funding; this is data synthesis and analysis. The contract period will be up to 12 months with an estimated start date of January 2, 2026. The project will be advised by input from the MACAN Steering Committee and MACAN Co-Coordination from MARCO and the MARACOOS, and will report to the MARCO Science Program Manager.

Required Project Deliverables and Expectations

- [Mid-Atlantic Ocean Data Portal](#) layer showing the relative vulnerability of biological resources in the region.
- Peer-reviewed manuscript (submission to a relevant journal prior to the end of the contract period).

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- Digital outreach products summarizing the applied takeaways of this project for key stakeholders, including but not limited to fisheries and aquaculture industries.

The selected contractor will meet a minimum of once a month with MACAN Co-Coordinator and other project collaborators to monitor progress and receive input on next steps. This is a remote position, and it is expected that the contractor will complete all project deliverables within the timeframe of the contract. MACAN will assist with the outreach materials and the transitioning of the datasets to the Mid-Atlantic Ocean Data Portal site. The metric that will be developed to describe the relative vulnerability of a site will be translated into the data layer for The Portal.

Compensation

The applicant will provide a budget estimate not to exceed \$80,000. The contract value will support labor costs associated with the analysis, summary, and deliverable product development, as well as any indirect costs and travel. No benefits will be directly provided by MARCO/MACAN/MARACOOS. If the applicant is part of an organization, funds can be transferred to the organization and could be subject to said organization's indirect and fringe requirements. Travel expenses could be included in the total contract value and will be determined at the time of contract negotiation. The contract could be with an individual as a 1099 or through an institutionally sponsored programs office. The applicant is expected to provide their own computer and internet access. Software needs can be included in the budget estimate.

Qualifications

The contractor or contract team lead PI is expected to have a PhD in Oceanography or related fields (e.g., ecology, chemical oceanography, biological oceanography, fisheries ecology, biostatistics). Demonstrated experience with acidification science, data synthesis, scientific writing, and programming (Matlab, R, Python, or other open source software) is required. The contractor must be eligible to work in the USA, with preference given to US citizens and those who live in the Mid-Atlantic region, though anyone is encouraged to apply within the USA. Experience with the creation of outreach materials is preferred.

Application Package

The application package should include an up to four page proposal, which should include the following sections:

1. **Methods:** explain how you and/or your team will methodologically approach creating a metric using carbonate chemistry (held in MACAN's private collection), MACAN's biological impacts database (pH and carbonate mineral saturation states with accompanying environmental data and spatial coordinates), and any other open source data from public repositories. Methods should be based on sound, citable science. The metric should take into account spatial scales from single sites to bay and shelf-wide regions. Time scales of interest include monthly and seasonal, and should also be relevant to natural resource planning.
2. **Timeline:** provide a detailed timeline of the steps, interim and final outcomes, and deliverables throughout the project. It is expected that the contractor/contractor team will meet at least once per month with the MACAN Coordinators, quarterly attend the MACAN Steering Committee meetings, and be available to meet with the MACAN team when requested. The expected term of the contract is up to one year.
3. **Budget Justification:** this should include an estimate of the number of hours the contractor/contractor team will devote to the project on a monthly basis and should be in

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line with the project timeline. If travel to meetings or workshops is proposed, include the cost of the meetings in this section. These funds can be held by MACAN and reimbursed to the contractor/contract team. The budget justification is ultimately the estimated cost of the project based on the number of hours committed and must include salary, fringe (if applicable), travel, subscriptions to software packages, and any other indirect expenses (if applicable).

Names and roles: if applying as a team, the names and roles of each team member are required (does not count towards the four page limit).

Bibliography of references cited (does not count towards the four page limit).

Curriculum Vitae: two-page CV (does not count towards the four page limit) including relevant publications, grants, projects, and other experience.

The application package should consist of one PDF of all the required elements to be sent to Dr. Janet Reimer, MACAN Co-Coordinator at jreimer@midatlanticocean.org by 11:59 pm on December 5, 2025 with the subject line MACAN Contractor Application. If you have any questions, please email Dr. Reimer with the subject line MACAN Contractor Question.