



# 2023 MACAN Work Plan and Semi-Annual Progress Report

**Reporting Period:** July 2023 – December 2023

**Work Group Webpage:** <https://midacan.org/>

**Work Group Leads:** Kirstin Wakefield (MARACOOS); Janet Reimer (MARCO)

**Work Group Members:** MACAN is guided by a Steering Committee, and has four sub-working groups that are open to government and non-governmental entities operating in the five Mid-Atlantic states and the District of Columbia.

**Current Steering Committee Members Include:**

Last Name	First Name	Organization
Bokunewicz	Henry	Stonybrook University and NY OA Task Force Chair
Bristow	Avalon	Mid-Atlantic Regional Council on the Ocean
Erksine	AJ	KCB Oyster Holdings LLC
Ford	Mary	MARACOOS
Hassell	Kevin	New Jersey Department of Environmental Protection
Jacobs	Stephanie	Environmental Protection Agency (Region 3)
Langley	Susan	Maryland State Underwater Archaeologist, MD Department of Planning
Miller	Whitman	Smithsonian Environmental Research Center (SERC)
Ombres	Erica	NOAA Ocean Acidification Program
Horodysky	Andrij	NOAA Northeast Fisheries Science Center
Reimer*	Janet	Mid-Atlantic Regional Council on the Ocean
Rivest	Emily	Virginia Institute of Marine Science (VIMS)

Rowe	Pete	New Jersey Sea Grant
Rutkowski	Megan	New Jersey Department of Environmental Protection
Personias	Casey	New York Department of Environmental Conservation
Testa	Jeremy	University of Maryland Center for Environmental Science
Wakefield*	Kirstin	MARACOOS
Wark	Kevin	Captain, F/V Dana Christine II
Zacharias	Margaret	EPA Region 3

\* Co-Lead

**Work Group Goal:** Foster collaboration and coordination across sectors and states in the Mid-Atlantic regarding ocean and coastal acidification.

**Outcomes:**

- Build upon the monitoring gaps paper from 2019 by identifying areas of opportunity for acidification monitoring in the Mid-Atlantic.
- Continue to build understanding among MACAN stakeholders about research and programs related to acidification in the Mid-Atlantic.
- Support and inform the Interagency Work Group on Ocean Acidification’s *Coastal Community Vulnerability Assessment*.
- Coordinate with partners such as NOAA Ocean Acidification Program, other Coastal Acidification Networks, the OA Alliance, and other MACAN members.

**ACTIVITY 1 (OAP Workplan) - Host annual webinar series addressing topics of interest to stakeholders.**

**Expected Completion Date:** June 2023

January – June, 2023:

MACAN held its annual webinar series in Spring 2023:

- February 2023: OA Research and Education Highlights from Around the Region
- March 2023: Mitigating OA Through Marine CDR: Opportunities and Challenges
- April 2023: A Coupled Biogeochemical-Biological-Economic Modeling System to Quantify Climate Change Impacts on Oyster Aquaculture in Chesapeake Bay
- May 2023: OA Research and Highlights Around the Region: Part 2

Recordings of the webinars are on the MACAN website [here](#).

MACAN co-coordinators will begin planning the spring 2024 webinar series in January 2024.

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**ACTIVITY 2 (OAP Workplan) - Hold quarterly meetings with the Steering Committee to share funding opportunities and discuss areas for potential coordination/collaboration amongst MACAN members.**

**Expected Completion Date:** Ongoing

July – December 2023:

The MACAN Steering Committee (SC) meeting was held on November 29, the September meeting was skipped due because the Steering Committee was present at the MACAN Workshop. At the November meeting, updates on the current MACAN Fellows' projects and the video projects, the Steering Committee was given the chance to comment and collaborate on the MACAN five-year plan, and members gave updates on state initiatives and academic research. Updates on the MACAN-funded projects can be found below in their respective sections.

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**ACTIVITY 3 (BIL Activity 2.1) - Conduct a regional monitoring inventory to characterize sensors currently in use across the region and identify strategic locations to leverage existing, or add new infrastructure for ocean and coastal acidification measurements.**

- Distribute an Ocean and Coastal Acidification Monitoring Inventory Questionnaire to stakeholders in the region.
- Synthesize the survey responses to identify existing and potential opportunities for acidification monitoring; cross-reference with gaps identified in the IWG-OA Coastal Community Vulnerability Assessment effort.
- Update acidification monitoring maps on the Mid-Atlantic Ocean Data Portal and identify opportunities for real- or near-time data products on the MARACOOS OceansMap.

**Expected Completion Date:** December 2023

July – December 2023:

The [data layer](#) was finalized and posted to the Mid-Atlantic Data Portal in November following a soft launch and demonstration at the MACAN Workshop in September.

Metadata was completed and posted on the Portal as well and a [digital object identifier](#) was also obtained for the dataset. The fellow who led this project, Carly LaRoche, is currently working on a spatial qualitative assessment of monitoring gaps within the region. It is expected that since there was a delay in the release of the NOAA [Ocean Chemistry Vulnerability Assessment Report](#), that the monitoring gaps assessment, which will align with the report, will be completed within the first half of calendar year 2024.

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**ACTIVITY 4 (OAP Workplan) - Coordinate with partners, including the NOAA Ocean Acidification Program, other CANs, states within the region, and the OA Alliance.**

- Engage in the Ocean Acidification Information Exchange
- Work with other CANs and partners to participate in and disseminate information about the annual webinar series
- Participate in all CAN-calls as coordinated by NOAA OAP
- Other activities as they arise.

**Expected Completion Date:** Ongoing

July – December 2023:

- MACAN participated in the OA Alliance/Aquarium Conservation Partnership StoryMap project and will be partnering with NOAA OAP and Alaska AOAN on its development.
  - The official launch of the StoryMap will be a coordinated effort amongst all the CANs in January of 2024.
- MACAN invited the lead from all the east coast CAN's to the MACAN workshop.
- Reports of MACAN activities are given at MARCO Management Board meetings and MACO Steering Committee meetings.
- MACAN is participating in an all-CAN paper, where the group met on September 8th to discuss the paper
- MACAN participated in the writing and scoping of the New Jersey Acidification Action Plan.

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**ACTIVITY 5 (OAP Workplan) - Support the IWG-OA Coastal Community Vulnerability Assessment and National Monitoring Prioritization Plan Efforts**

- MACAN's Science Working Group, Steering Committee, and partners will provide feedback on draft reports

- Identify outreach opportunities to disseminate regional report findings to policymakers, industry stakeholders, and the research community

**Expected Completion Date:** Ongoing

July – December 2023:

The final vulnerabilities assessment, or the [Ocean Chemistry Vulnerability Assessment Report](#) was released by the White House in September. In July, MACAN provided comments and information to the IWG-OA on monitoring efforts in the region in support of the followup report on monitoring Priorities. MACAN will continue to work with the IWG-OA as needed.

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**ACTIVITY 6 (OAP Workplan and BIL Activity 2.3)- Develop outreach materials for stakeholders, including policymakers, industry, and educators, using lessons-learned from other regions.**

- Refine and disseminate the Mid-Atlantic Ocean and Coastal Acidification Toolbox for middle school to early college teachers and Informal Educators in the Mid-Atlantic that was created in 2021
- Communicate advances in ocean and coastal acidification research and policy to the MACAN membership using a bi-monthly Constant Contact email “news and updates” and via its website (see also, Activity 7)
- Enhance industry outreach and engagement around ocean and coastal acidification, including marine carbon dioxide removal (mCDR) topic
- Connect community scientists with opportunities for ocean and/or coastal acidification monitoring
- Produce and disseminate several 2-4 minute videos on coastal and ocean acidification
- MACAN will create social media pages on Facebook, Twitter, and Instagram.

**Expected Completion Date:** Ongoing

July – December 2023:

MACAN held a session at the State-of-the-Science workshop focusing on mCDR research, permitting, and policy. MACAN has also collaborated with several mCDR industry partners on the video project, which is in post-production. Filming for the videos was carried out in September through November in all five Mid-Atlantic states. MACAN established a partnership with the Barnegat Bay National Estuary Program to

collaborate on the upcoming deployment and validation of a CO<sub>2</sub> monitoring station in intercoastal waters of New Jersey, as well as assisting with data synthesis. MACAN has used Constant Contact to notify members of MACAN events, reports, fellowships, and other MACAN media releases. MACAN has maintained the social media pages.

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#### **Activity 7 (BIL Activity 2.4) - Revisit and enhance the MACAN website**

- In order to efficiently act as the regional information hub for ocean acidification our website needs regular updating and attention to meet the changing needs in the region.
- Update the website to make it more widely accessible

**Expected Completion Date:** Ongoing, Expected completion March, 2024

July – December 2023:

MACAN is continuing to work with 3Lane Marketing to redesign and update the website. Specifically, the website will have a searchable database of resources, updated explanation of acidification based on the current state-of-the-science, new schematic figures and graphics, and a new overall design.

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#### **Activity 8 (BIL Activity 2.6) - Host In-person Workshop: Mid-Atlantic Ocean and Coastal Acidification State of the Science**

- A workshop will be developed to bring MACAN members together to share new research, identify opportunities for collaboration, build partnerships, and identify additional ways for MACAN to address key stakeholder concerns and needs regarding impacts to estuarine, coastal, and ocean species and ecosystems in the Mid-Atlantic. A workshop agenda and speaker list will be developed, and an appropriate venue secured for approximately 30 attendees in-person

**Expected Completion Date:** Completed, September, 2023

July – December 2023:

MACAN's in-person State-of-the-Science workshop was held in Baltimore, MD in September. There were over 40 attendees over the course of two days. Topics included: Ecosystems, Species, and Community Vulnerability, Community Engagement and Outreach Opportunities, Federal and State OA Initiatives, Monitoring and Technology Developments, mCDR and Nature-Based Solutions to OA. The recorded meeting presentations and the presenters' slides are available on the [workshop page](#) of the MACAN website.

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### **Activity 9 (BIL Activity 2.2) - Development of an COA “hotspot” layer on the Portal**

- By identifying “hotspot” locations in the Mid-Atlantic that are at a high risk for, and vulnerable to, acidification events by integrating and analyzing regional carbonate chemistry data, including glider and ship data, this task will build a better understanding of where and how Mid-Atlantic nearshore ecosystems will be impacted by ocean acidification.

**Expected Completion Date:** Ongoing, Expected completion December, 2024

July – December 2023:

The MACAN contractor, Teresa Schwemmer, has been compiling carbonate chemistry data from public data repositories, with guidance from the Monitoring Inventory (see Activity 3). Teresa is also in the process of surveying peer-reviewed literature to identify biological thresholds for acidification indices for various species in the Mid-Atlantic. Teresa has been in contact with various stakeholders to determine what kind of data visualizations and tools will be helpful for various types of stakeholders. The MACAN Stakeholder Outreach Survey, which was completed in 2021, was also used to help identify stakeholder needs as they relate to identifying hotspots for acidification. Teresa has met with MACAN leads monthly to discuss progress.

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### **Activity 10 (BIL Activity 2.5) - Development of workforce career mentorship program for students from underrepresented populations**

- MACAN will work with the Steering Committee and other research and outreach partners to develop a Fellowship program that will place students from underrepresented populations with a mentor in policy, outreach, or OA-related research. The program will be available to undergraduate and graduate students, who will be selected based on a competitive process determined and scoped by the MACAN Steering Committee.

**Expected Completion Date:** Ongoing, Expected completion December, 2024

July – December 2023:

MACAN received 15 applications for the fellowship. Complete application packages were initially reviewed by MACAN Co-Leads, who narrowed down the pool of applicants to seven. Those seven applications were sent out to MACAN partners for external review to narrow down the pool to four candidates for interviews; two graduate and two undergraduate. From the final four, two fellows were selected, one graduate and one undergraduate. The fellows were chosen in December and will begin scoping for the projects in January, 2024.

