

**Mid-Atlantic Committee on the Ocean  
Work Plan and 2020 Mid-Year Progress Report**

**WORK GROUP NAME:** Mid-Atlantic Coastal Acidification Network (MACAN)

**LEAD(S) and AFFILIATION(S):**

Mary Ford - Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS)

Avalon Bristow - Mid-Atlantic Regional Council on the Ocean (MARCO)

**MACO (and/or 2016 Ocean Action Plan) GOALS, OBJECTIVES and ACTIONS**

2016 Ocean Action Plan: <https://www.boem.gov/Mid-Atlantic-Regional-Ocean-Action-Plan/>

MACO's work regarding ocean acidification builds on Action 3 in the Healthy Ocean Ecosystem Goal of the Ocean Action Plan (*Develop a Mid-Atlantic Ocean Acidification Monitoring Network*) and is primarily conducted through the Mid-Atlantic Coastal Acidification Network (MACAN). MACAN, which is coordinated by the Mid-Atlantic Regional Council on the Ocean (MARCO) and the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS), seeks to answer basic questions about the intensity, frequency, and location of acidification events. MACAN also works to understand the causes of those events, whether from atmospheric sources of carbon, land based pollution, or as a result of internally-driven vulnerability. Building upon this increased understanding of the potential causes and impacts of ocean and coastal acidification, MACAN works to educate managers, elected officials, industry representatives, and the public about solutions to reduce those sources of acidification.

**ACTIVITY 1**

Identify ecological research needs related to acidification in the Mid-Atlantic, and support gap-filling efforts.

**A1 Progress Period:** January 2020 - July 2020

**A1 Progress Description:** Ecological research needs were characterized in MACAN's 2019 publication, "Recommended Priorities for Research on Ecological Impacts of Coastal and Ocean Acidification in the U.S. Mid-Atlantic" by Saba et al. 2019 (available here: <https://doi.org/10.1016/j.ecss.2019.04.022>).

MACAN established a Science Work Group in the spring of 2020 to identify and work toward filling gaps in scientific understanding around ocean acidification in the Mid-Atlantic. There are thirteen members of the work group, representing researchers and state and Federal agency employees from across the region. The Science Work Group is developing a Work Plan which is anticipated in the fall of 2020, but draft objectives are listed in Activity 4, below.

**ACTIVITY 2**

Identify OCA monitoring gaps in the Mid-Atlantic, and support efforts to fill those gaps.

**A2 Progress Period:** January 2020 - July 2020

**A2 Progress Description:** Monitoring gaps in time and space in the Mid-Atlantic, and their results were published in a MACAN white paper entitled “Scientific considerations for acidification monitoring in the U.S. Mid-Atlantic Region” by Goldsmith et al. 2019 (available here: <https://doi.org/10.1016/j.ecss.2019.04.023>) and in acidification monitoring maps showing the locations of past and present acidification monitoring in the Mid-Atlantic. These maps can be found under the [Oceanography theme on the Mid-Atlantic Ocean Data Portal](#).

MACAN is working to fill these gaps by supporting research initiatives that will enhance water quality monitoring in the region with acidification parameters, and encouraging continuous data collection where possible. The Science Work Group is considering how best to address some of the specific recommendations in the aforementioned paper; their work plan is anticipated in fall 2020.

### ACTIVITY 3

Stakeholder outreach to increase engagement of current MACAN members, gain a better understanding of potential industry impacts and concerns related to acidification, and ensure that industry needs are being met through MACAN’s activities.

**A3 Progress Period:** January 2020 - July 2020

**A3 Progress Description:** MACAN has established two Work Groups to increase its outreach activities, as well as engagement of its industry stakeholders: the Outreach Work Group and Industry Work Group. The Outreach Work Group’s membership spans the region, and is composed of state and Federal agency representatives, non-profit staff, and researchers. The Industry Work Group has members from the shellfish aquaculture, commercial, and recreational fishing industries and the MAFMC and has representation from all five states within the region.

Work Plans for each of these efforts are anticipated in late fall or winter 2020, but draft objectives are listed in Activity 4, below.

### ACTIVITY 4

Formation of new work groups to focus on other areas of acidification concern.

**A4 Progress Period:** January 2020 - December 2020

**A4 Progress Description:**

The MACAN Steering Committee identified the following Work Groups for establishment:

1. Science
2. Outreach
3. Industry, and
4. Policy.

Interim leadership has been identified and the work groups have convened on approximately monthly calls since late spring 2020.

Work Plans for each work group are anticipated in late fall or winter 2020, but draft objectives are listed below.

#### **Science Work Group Objectives:**

- Coordinate with the Outreach Working Group and/or MACAN staff to ensure that the most up to date science is reflected accurately in all outreach materials.
- Facilitate communication and building of relationships in support of citizen science efforts (in coordination with the Outreach Working Group); Ensure that citizen science efforts are collecting data in a useful manner.
- Inform the development of MACAN Workshops by ensuring that the appropriate topics are covered in the agenda, and identifying relevant researchers for participation.
  - Future workshops could include, but are not limited to: State of the Science; Stakeholder Engagement
- Maintain an ongoing list of observations and research/scientists that is updated on a somewhat regular basis.
- Review and provide feedback on state Ocean Acidification Action Plans and/or water quality monitoring efforts

#### **Outreach Work Group Objectives:**

- Help draft/update Outreach Plan, in collaboration with the Industry Working Group
  - Review suggested outreach actions within existing Ocean Acidification reports, which may include but are not limited to: NOAA's Ocean Acidification Education Implementation Plan; NY Ocean Acidification Task Force report, when available; NERRS/NEP resources
- Ensure that MACAN's website (midacan.org) is updated
  - Create a webpage for educational resources with a Mid-Atlantic focus
- Engage a larger and more diverse group of stakeholders
  - Explore connections between urban areas/harbors and aquariums serving those areas
- Survey NERRS program coordinators in the Mid-Atlantic region to scope how OA modules can be/are being incorporated into NERRS Teachers on the Estuary (TOTES) summer programs

#### **Industry Work Group Objectives**

- Increase the awareness of MACAN and ocean and coastal acidification more generally among the industries targeted in the 2018 MACAN Stakeholder Outreach Survey (aquaculture, commercial shellfishermen/finfishermen, recreational fishermen, for-hire fishing operators, and seafood distributors);
- Increase industry participation in MACAN events/activities and involvement with addressing acidification (e.g. monitoring)
- Arm the Industry working group with succinct, relevant information about ocean and coastal acidification, particularly how it will impact the species of concern for the various industries involved

**Policy Work Group Objectives:**

- Develop communication materials for policy makers about acidification drivers and impacts.
- Keep up to date with state ocean acidification commissions and task forces in the Mid-Atlantic, and coordinate MACAN input to these groups as necessary.
- Identify potential cross-state policy approaches.
- Produce a whitepaper for publication.
- Scope the need for and benefits of convening policy-makers/legislators across the region regarding ocean acidification Action Planning.