



Mid-Atlantic Coastal Acidification Network

MACAN's 2025 State-of-the-Science and Technical Training Workshop
July 15-17, 2025 Smithsonian Environmental Research Center, Edgewater MD

Hosted in partnership with NOAA Ocean Acidification Program

Workshop Objectives

- Improve/support regional collaboration on standards of practice/validation methods for various types of instruments and coastal and estuarine waters
- Build capacity to fill spatio-temporal gaps in coastal acidification monitoring, by connecting people and resources to set up effective monitoring, while leveraging existing programs/sensors
- Build capacity for mCDR readiness (monitoring, research, and validation)
- Strengthen connections and collaborations across regional CANs

Potential outcomes could include: a technical memo on best practices/standard methodology on validation sampling and community needs, the opportunity for an internal consistency check for participants, and identifying whether there is a need for a low-cost suite of monitoring equipment.

Draft Agenda

Welcome and Introductory Remarks – Janet Reimer and Kirstin Wakefield, MACAN and Liza Wright-Fairbanks and Alexandra Puritz on behalf of NOAA OAP (tentative)

Day 1-2: State-of-the-Science Sessions, Student Flash Talks, and Breakout Sessions

Biological Impacts and Multi-stressors through a Management and Risk Assessment Lens

Combine with Risk Assessment and Vulnerability – *This session will address new developments for species-specific impacts due to acidification, how multi-stressors are taken into account when developing management plans, and how data tools can be used to inform risk assessment.*

- Atlantic Surf Clam Multi-Stressor Research – Daphne Munroe, Rutgers University
- Interactions between OA and HABs: Lessons from other CANs – Emily Hall, Mote Marine Lab
- Can pH be used as a Proxy for Satellite-derived Chlorophyll Data? – Kari St. Laurent or Janet Reimer
- Biological Sensitivity to OA Review: Accessing the Data for Planning and Risk Assessment – Karl Vilacoba, MARCO Ocean Data Portal

Risk Assessment and Vulnerability – *This session will focus on what data is needed to define risk, how to define risk and vulnerability, what kinds of outcomes and tools can be useful, and lessons learned to support adaptation and resilience.*

- Atlantic Scallop RVA & Fishing Industry Outreach – Halle Berger, University of Connecticut
- NaMES (NOAA National Marine Ecosystem Status) OA Indicators – Jonathan Sharp, NOAA
- Group Discussion – What is needed to define risk and vulnerability?

Monitoring – *This session will highlight monitoring priorities, provide examples of how data are used, presented, and integrated into broader modeling and observing programs; and help to build relationships between scientists and resource managers.*

- Monitoring Priorities for the Region from the IWG-OA Vulnerability Assessment

- NECAN's Monitoring Priorities Planning Process - Austin Pugh, NECAN
- Overview of SWMPP at NERR Reserves - Gregg Sakowicz, Jacques Cousteau NERR
- Carbonate Chemistry Data QA/QC Pilot from Barnegat Bay NEP - Janet Reimer, MACAN
- SeaScapes - Integrating Satellite Data with OA and In Situ Monitoring - Maria Kavanaugh, Oregon State

Restoration and Nature-Based Solutions - *This session will highlight success stories from acidification mitigation experiments, nature-based solutions to acidification and carbon sequestration, and how these actions are factoring into state planning for CO₂ reduction and capture.*

- Seagrass Carbon Sequestration under Warming Conditions - Stephen Tomasetti, UMCES
- Nature-based Solutions and State Planning - Alex Moya or Sylvia Truist, Pew Trust
- Blue Carbon - Annie Tamalavage, SERC

mCDR/Coastal Carbon Collaborative Session/Panel Discussion - *This session will feature flash talks about enhanced carbon dioxide removal from marine environments and a discussion on the responsible implementation and permitting of mCDR.*

- Responsible Implementation of mCDR - Wil Burns, American University
- Current Activities in State mCDR/OAE permitting; How Compliance Requirements and Permitting Processes may vary in Mid-Atlantic States - Ashwin Murthy, Sabin Center, Columbia University
- Alkalinity Enhancement at Wastewater Treatment Plants - Jeremy Testa, UMCES
- Weathering Projects in the Mid-Atlantic, Grace Andrews, Hourglass Climate
- Modeling Efficacy of OAE in the Chesapeake Bay - Kyle Hinson, Pacific Northwest National Laboratory

Day 2 (PM): Hands-On Field Trip to SERC's Global Change Research Wetland (GCREW)

Participants will take a guided tour of the GCREW, collect water samples, and view demonstrations of key research techniques and instrumentation.

- Demonstration of Equilibration System & Miller Lab Research on Using Radon as a Groundwater Signature for Carbon Budget & Lateral Transport of Carbon- *Whitman Miller & Stephanie Wilson (SERC)*
- Discrete water sample collection, in Situ pH Glass Electrode Measurement, and Pro-Oceanus pCO₂ sensor demonstration - *Led by Mark Barry/Pro-Oceanus & MACAN*

Day 3 (AM): Lab Demonstration for DIC/TA Analysis

Participate in a lab demonstration for DIC and TA analysis of wetland water samples. Dickson CRM will be provided for the analysis, to maintain consistency with other laboratories in the region. - *Led by Li-cor Environmental, using Apollo SciTech technology.*

Day 3 (PM): Discussions on Data Quality and Submission to Repositories

- What does the data mean, what makes good quality data? Guided discussion, Pro-Oceanus, Mark Barry
- Data submission and QC of discrete bottle sample data - Li-Qing Jiang, NOAA NCEI
- Utility of weather quality pH - Dwight Gledhill, NOAA OAP

Breakout Session Topics

- Responsible mCDR Strategies and what are the environmental risks? -Facilitated by Wil Burns, American University Institute for Carbon Removal Law and Policy
- Making Connections: Data and Monitoring Needs for Mid-Atlantic Coastal Resource Managers
- Other Topics (TBD)

Student Lightning Talks and Posters

- See Open Call for Abstracts on registration form