The Mid-Atlantic Coastal Acidification Network (MACAN): Utilizing the Mid-Atlantic Ocean Data Portal to Identify Monitoring Gaps for Regional and Coastal Acidification

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Identified Gaps in Regional Monitoring

- With the exception of a few fixed autonomous stations, most sampling efforts are not conducted frequently enough to capture short-term episodic events and seasonal variability that may impact aquaculture, commercial fisheries, and decision-making by coastal resource managers.

- Often, only 1 carbonate system parameter is measured, but multiple parameters need to be measured simultaneously to fully characterize acidification.

- Most current sampling is done in surface waters, but subsurface waters are typically more acidic.

Priority Recommendations to Develop a More Robust Regional Monitoring Network

MACAN convened an interdisciplinary working group and hosted several stakeholder workshops to review acidification monitoring maps and begin to develop a robust monitoring network to fill data gaps in the Mid-Atlantic region (Goldsmith et al. 2019).

Expand current acidification monitoring activities to leverage existing infrastructure and funding opportunities

- Include a second carbonate chemistry parameter
- Monitor surface, subsurface, & bottom waters simultaneously

Consider other drivers that may affect acidification

- Combine carbonate chemistry measurements with other water quality and biological measurements

Focus monitoring efforts in regions with enhanced vulnerability

- Include habitats of commercially or recreationally important species

Identify best sensor technology for long-term in situ monitoring

References:

MARCO Mid-Atlantic Ocean Data Portal: Acidification Monitoring Locations. [Portal Link]