PROJECT IMPLEMENTATION PLAN

NOAA HARMFUL ALGAL BLOOM LIAISON PROJECT

2021-2025

HABCAST

Collaboration to Advance Stakeholder Tools

The National Oceanic and Atmospheric Administration (NOAA), NOAA Sea Grant and Florida, Ohio, New York, Maryland, Mississippi-Alabama, Texas, and Washington Sea Grant programs combined efforts to create a NOAA Harmful Algal Bloom (HAB) liaison position. This position will coordinate HAB communications and the development of new data driven HAB communication tools among three NOAA line offices (OAR, NOS, and NESDIS) to better serve decision-making end users tasked with responding to and mitigating risk from HABs. Our two federal partners – NCCOS and NOAA CoastWatch – are complemented with six IOOS regional associations (RA) and several other state agencies, Sea Grant programs, and eNGOs; programming will serve all of them.

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BACKGROUND

Harmful algal blooms (HABs) have been reported to occur in the surface waters of all 50 U.S. states and are increasing globally. HABs occur when photosynthetic algae that live in fresh, brackish or marine waters grow out of control (i.e., “bloom”) and have adverse effects on people or ecosystems. These HABs can result in significant socioeconomic impacts due to shellfish closures, wild or farmed fish mortalities, human health impacts, lost coastal recreation and tourism, reduced waterfront property values, and consumers who avoid consuming seafood. As a result, HABs are not only compromising the health of our coastal ecosystems, but they are also affecting the resiliency of our communities and economies. Early detection can mitigate some of the harmful effects of HABs, thus reducing associated socioeconomic impacts.

NOAA’s National Centers for Coastal Ocean Science (NCCOS), NOAA CoastWatch (CW) and the Integrated Ocean Observing Systems (IOOS) each produce different types of HAB decision making tools, but all have limited ability to extend that information out to all intended and appropriate end-users, let alone obtain input on tool usefulness for decision making. The Sea Grant extension network has established relationships with end-users and specializes in assisting our clientele to solve problems by identifying information needs and closing gaps with data tools and products. These gaps in access, information, and training create challenges that can most efficiently be solved by coordinating and integrating knowledge across the nation; knowledge that is generated within NOAA and will be better communicated outside of NOAA to the benefit of all three NOAA line offices.

PURPOSE

The purpose of a HAB liaison position and project is to develop a collaborative framework for advancing HAB decision-making locally, regionally, and nationally.

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GOALS & OBJECTIVES

The overall goal for this new four-year National HAB Liaison position and project is to advance HAB decision-making by coordination, integration and transference of knowledge across the nation. Specific objectives are to:

- Establish collaborative relationships between state Sea Grant programs, NCCOS, CW, and IOOS Regional Associations (RAs) with a focus on HAB issues;
- Harness the Sea Grant network of extension, outreach and education expertise to augment NCCOS', CW's and IOOS' research and monitoring/forecasting outcomes and engagement with end users; and
- Lead the development of a community of practice to meaningfully engage; share issues of concern; synthesize information; build expertise; acquire and develop new tools and policies; and more fully integrate HAB outreach within Sea Grant and partner networks to ensure the continuation of efforts beyond this project.

APPROACH FOR ACHIEVING OBJECTIVES

A liaison will develop collaborations with partners and stakeholders to support planning, research and technological solutions to address HAB issues, and ensure coastal communities have access to tools that incorporate the best available science for planning and decision-making. Through Sea Grant's Extension programming, the use of innovative forecasting tools will increase the public's awareness of changing conditions and the potential impacts of HABs on their communities, economies and ecosystems.

NETWORKING	PLANNING	COMMUNICATING	ENGAGING	REPORTING
NOAA/NCCOS	Engagement/ Strategy	Extension	CoP	Evaluations
NOAA/CW	Program Development	Publications	Publications	Outcomes/ Impacts
IOOS	Activities	Tools/Resources	Tools/Resources	Annual Reports
SG Network		Feedback	Trainings	

fig 1: liason functions and actions

photo credit: FWC

TO ACHIEVE THE OBJECTIVES,

THE FOLLOWING TYPES OF ACTIONS WILL BE IMPLEMENTED.

Workshops for stakeholders and end-users. The purpose of these workshops will be to:

- identify HAB detection and forecasting needs;
- explore available HAB products, models, and data;
- ask questions and provide input on products; and
- assist NCCOS in identifying priorities and needs across the nation.

Informal efforts to obtain input. These efforts will seek to enhance HAB forecasting and delivery by determining:

- HAB information needs of different end-users;
- preferred formats and delivery platforms;
- how people are finding forecasts, assuming they are; and
- the type of gaps that exist (e.g., data, awareness, or knowledge).

CW training expanded to nontechnical audiences including the PT members, CoPs, and their end users. These trainings will be conducted in association with CW Nodes and will include modules oriented towards the detection, spatial modelling and visualization of HABs:

- Fundamentals of Remote Sensing, Satellites and Sensors,
- Satellite Data Products and Applications,
- Accessing and Viewing CW Data,
- CW Satellite Data Processing Tools, and
- Downloading and Using Data for Research Applications.

Development of a HAB focused Community of Practice (CoP), with the identification of short-term (1- year), mid-term (3-year), and long-term (5-year) work plans. A CoP will seek to:

- allow the entire network to collectively learn of and benefit from discussions on emerging HAB issues, research data needs, and development of innovative solutions.
- provide a forum through which successes and lessons learned by others can jump start new projects, strengthening the capacity of the network.
- expand end-user access to reliable science-based information and extension programming designed to translate and deliver key applied research to those who can use it in decision-making.

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WORKING TOGETHER – *OUR WAY FORWARD*

This project recognizes that each partner brings a unique strength to the table. The Sea Grant network is directly connected to communities and widely regarded as a trusted partner at local, state and national levels. The NCCOS develops HAB forecasts and predictive models for water bodies across the nation. CW provides training on and access to global and regional satellite data products for near real-time applications. The IOOS collects, validates, and integrates data into shareable tools. By working together, through a national liaison, we will be able to establish and maintain a network of people to facilitate data acquisition, synthesis, and the transfer of technology and knowledge. This approach offers a powerful and cost-effective mechanism to build mutual partnerships, capabilities and impact at local, regional and national scales. Such an approach will also enhance application of NCCOS HAB science within the Sea Grant network and coastal communities, promote the value of Sea Grant extension to NCCOS, and enhance the relevancy of NCCOS research to address societal needs related to HABs. Further, by tapping into Sea Grant knowledge and networks, IOOS RAs will improve data input and expand public reach to ocean and Great Lakes observing systems. And, expanding the use of CW products will help fulfill CW's purpose of facilitating the use of ocean and coastal satellite data to improve decision-making and outcomes.

DELIVERABLES

Specific, high-level cross cutting deliverables from the objectives of this project include that:

- A HAB Network across Sea Grant programs, NCCOS, CW and IOOS-RAs is developed and supplemented with a CoP that has short-, mid- and long-terms objectives to ensure longevity and maximize benefits of this investment;
- Partners, notably as represented by the Advisory Committee members from NCCOS, CW, and IOOS RAs receive useful feedback on product design;
- Educational materials for stakeholders are developed (i.e., fact sheets and trainings), accessible through cross-linked NCCOS and Sea Grant webpages; and
- CoP members are trained on NCCOS, CW and IOOS capabilities, and subsequently conduct trainings and assessments of tools to return to partners.

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DESCRIPTION OF NETWORK

Project Team: Points of contact (POCs) among Extension agents in the Florida, Ohio, New York, Maryland, Mississippi-Alabama, Texas and Washington Sea Grant programs, and from those working with products within NCCOS, CW, and the IOOS RA collaborators.

Advisory Committee: Sea Grant Program directors (co-PIs) and supervisors of POCs and partner programs in NOAA NCCOS, NOAA CW, and the IOOS RAs.

The overall project will be managed through both an advisory committee and points of contact that will help develop a new Community of Practice (CoP) to leverage HAB expertise with the networking and facilitation skills of agents around the country. The CoP will ensure the benefits of the network will be maintained over time and hopefully grow to include more programs.

Communication with NCCOS, CW and IOOS and the Project Team will occur regularly in order to provide updates and ensure Advisory Committee input is being incorporated into the project. The Advisory Committee (AC) also support strategic planning and provide advice on implementation, integration, and partnership. After initial establishment of the AC, which may require more substantial involvement, the AC will meet annually to provide input on project end-user needs, program development and guidance/feedback. The liaison will coordinate with the Project Team for project implementation. The Project Team (PT) will provide input to support the liaison in meeting the overall project goal and three cross-cutting objectives, and will host and support the liaison in conducting local programming. The AC and PT ensure the liaison has access to pertinent faculty and information needed to conduct liaison activities and they will help share information and success stories across the network.

photo credit: FWC

SEA GRANT PROGRAM

Oceanic and Atmospheric Research (OAR)

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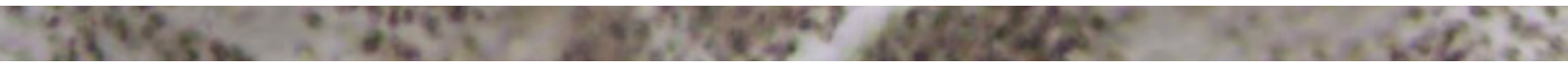

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