NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

SCIENCE SERVING COASTAL COMMUNITIES

Prevention, Control, and Mitigation of Harmful Algal Blooms (PCMHAB)

The NCCOS Prevention, Control, and Mitigation of Harmful Algal Blooms (PCMHAB) Program funds research to move promising technologies for preventing, controlling, or mitigating HABs and their impacts through development to demonstration and application, culminating in widespread use in the field by end-users.

Contact:
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Priorities

Development

- Assess and evaluate novel and unproven HAB technologies/strategies

Demonstration

- Test/validate novel and promising HAB technologies/strategies in the field

Transfer

- Facilitate the transition of proven HAB technologies to end-users

Funding Details

Type of Work Supported: Research

Award Format:
Cooperative Agreement

Frequency of Availability:
Periodic, typically every 2-3 years

Award Size: $200K - $400K/year

Duration of Award: 2-4 years

Eligible Groups:
State, Local, Tribal, Private, Non-profit, Academic, Federal

Is match required? No

Is the funding competitive? Yes

Program Details

PCMHAB is a national, peer-reviewed, competitive research funding program authorized by Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA). Benefits to the public include healthier fisheries and ecosystems, fewer impacts of blooms on humans and the environment, reductions in nuisance or harmful algae and decreased costs for states, tribes, and local governments in monitoring and managing HABs and their impacts.

Field projects to develop methods of controlling HABs must comply with guidelines developed through the National Environmental Policy Act (NEPA).

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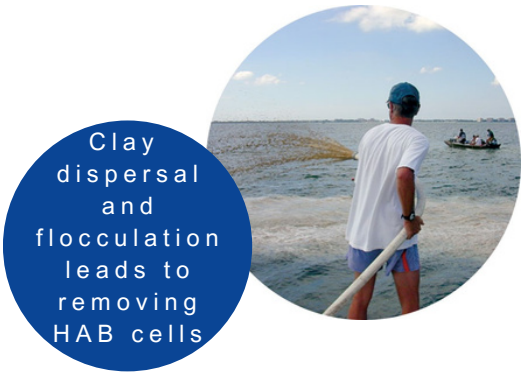
EXAMPLE PCMHAB PROJECTS

Application of Clay Flocculation for Removal of *Karena brevis* Cells and Toxins in Southwest Florida Coastal Waters

Despite routine application in Asia, clay flocculation technology to control harmful algal blooms has not been adopted in the U.S., largely because of the lack of data on U.S. ecosystems and species. This project will assess the effectiveness, environmental acceptability, socioeconomic costs, and scalability of modified clay dispersal as a red tide (*Karenia brevis*) bloom control strategy. Initial laboratory, mesocosm, and open water demonstration studies will guide larger-scale field trials.



Using Microcystin-Degraded Bacteria and Their Enzymes for Water Treatment

A large cyanobacteria bloom affected Ohio's Maumee Bay, near Toledo, in July 2015

Large and significant Lake Erie HABs in 2015, 2017, and 2019 continue to raise public concerns about the safety of drinking water supplies. In previous studies, researchers selected for and isolated microcystin-degrading bacteria from Lake Erie. In addition, the researchers demonstrated that these bacteria degraded microcystins into non-toxic fragments. This project will assess the potential that algal toxin–degrading bacteria have to degrade toxins from water treatment facilities.

Validation of a Triplex Test for Saxitoxin, Domoic Acid, and Okadaic Acid Measured in Shellfish Tissue

This project will evaluate an assay that simultaneously detects paralytic shellfish poisoning, amnesic shellfish poisoning, and diarrhetic shellfish poisoning toxins in mussels from New England and the Pacific Northwest. A simple, low-cost detection method to simultaneously determine these three toxin classes in a single sample will greatly reduce the testing burden on the aquaculture industry, while improving the safety of the nation's food supply and contributing to NOAA's targeted enhancement of the American Blue Economy.

Scan the QR codes

Current and past project details

New funding announcements

NCCOS