Federal Collaboration HABs & Hypoxia

NATIONAL OBJECTIVES

Advance scientific understanding of HABs and hypoxia—causes and effects in different ecosystems, along with social, economic and health-related impacts.

Advance research, development, and application of methods and technologies—HAB and hypoxia detection and monitoring, predictive forecast capabilities, prevention and control technologies.

Enhance HAB and hypoxia event response capabilities—stakeholder risk communications, readily-available public information, connect with susceptible communities, and mitigation activities.

Expand collaborations in HABs and hypoxia research, management, and policy among federal agencies—facilitate engagement with regional stakeholders, state and Tribal governments, and academic partners.

Advance dissemination of information on anthropogenic drivers of HABs and hypoxia—help decision-makers prevent new or expansion of existing HABs or hypoxia events.

HABS AND HYPOXIA

Harmful algal blooms (HABs) and hypoxic events (i.e., low oxygen conditions) are scientifically complex and economically damaging issues that challenge our ability to safeguard the health of U.S. coastal and freshwater ecosystems. Almost every state in the U.S. now experiences some kind of HAB event and the number of hypoxic water bodies in the U.S. has increased 30 fold since the 1960s with over 300 coastal systems now impacted.

ABOUT IWG-HABHRCA

Led by NOAA and EPA, many federal agencies contribute to the prevention, control, and mitigation of HABs and hypoxia in U.S. coastal and freshwater ecosystems. In order to address the increasing severity of HABs issues and the complexity of coordinating throughout the federal government, Congress established the Interagency Working Group on the Harmful Algal Bloom and Hypoxia Research and Control Act (IWG-HABHRCA). The IWG-HABHRCA is co-chaired by NOAA and the EPA, with over a dozen other member agencies.

OUR MISSION

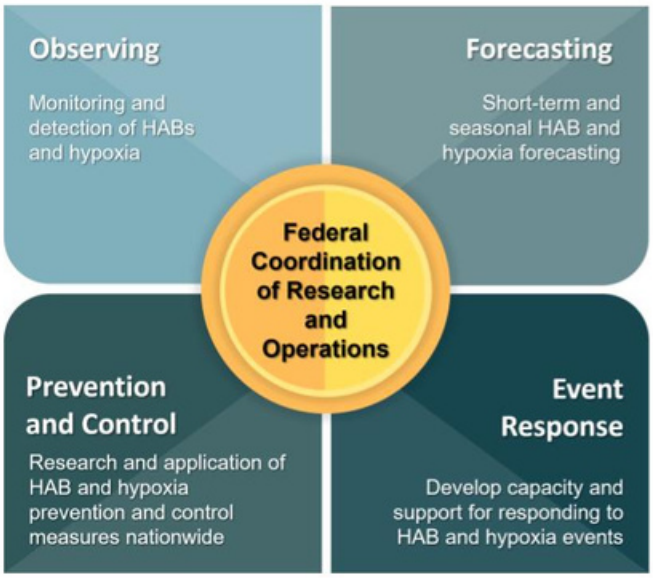
The mission of the IWG-HABHRCA is to harness federal expertise and capabilities to research, prevent, monitor and mitigate HABs and hypoxia. Under the IWG-HABHRCA, federal agencies are convened to develop strategies, and serve as a trusted source of information for stakeholders. The IWG-HABHRCA is highly responsive to current HAB and hypoxia events, meeting biweekly and often coordinating directly with state and Tribal governments, local resource managers, and communities.

LEARN MORE

coastalscience.noaa.gov/science-areas/habs/habhrca/

Email us at iwg-habhrca@noaa.gov

National HAB and Hypoxia Strategy



NOAA leads marine and estuarine efforts in HABs and hypoxia, while EPA leads those in freshwater. However, many federal agencies contribute to the research and operational activities for HABs and hypoxia. Most of these efforts are independently undertaken by federal agencies within their jurisdiction. For example:

- NASA provides satellite imagery of blooms and partners to develop tools for detection, forecasting, and mitigation.
- CDC funds multiple states to develop programs for responding to HAB-related public health issues.
- FDA assists states with sample collection and analysis when marine biotoxins are suspected in state waters and is the primary responder to blooms in Federal waters pertaining to food safety.

Mitigating HAB Impacts to Seafood Safety and Security in Alaska

Coastal communities in Alaska rely on the marine environment for both food security and the nutritional, cultural, and economic well-being of residents. Subsistence seafood can take up HAB toxins, posing the risk of paralytic shellfish poisoning (PSP). Since 2019, federal agencies have worked together to support research and sea food sample collection in Alaska to mitigate the risk to local communities from HAB toxins. Member agencies of the IWG (NOAA, EPA, BIA, NSF, USGS, USFWS, and NIEHS) provide funding and technical assistance to the Sitka Tribe of Alaska Environmental Research Laboratory (STAERL) to support algal toxin testing for subsistence shellfish in Southeast Alaska. Additionally, NOAA coordinated with USCG and Alaska's Department of Public Health and Epidemiology to share information with all Coast Guard Flight Surgeons, Command Center Staff, and Coast Guard Health Care Providers in Alaska on the signs and symptoms of paralytic shellfish poisoning (PSP), raising awareness and increasing the odds of PSP reporting.

Image Credit: Bethany Goodrich, Southeast Sustainable Partnership

Cyanobacteria Assessment Network (CyAN)

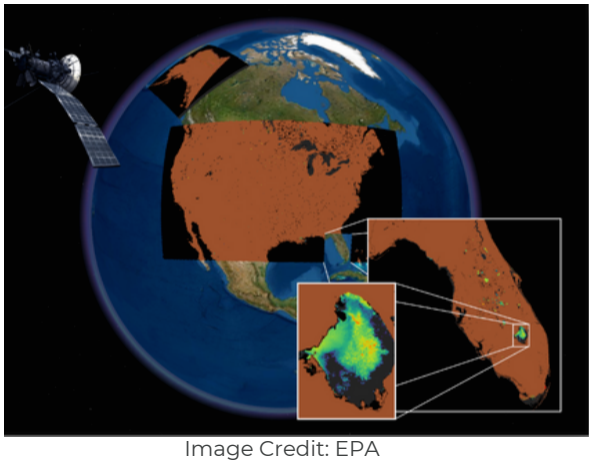


Image Credit: EPA

CyAN is a collaborative research project among several IWG members (EPA, NOAA, NASA, USGS, and USACE) that allows citizens and policymakers to get near-real time updates on cyanobacteria bloom conditions in over 2,300 lakes in the contiguous United States and more than 5,000 in Alaska. The mission of CyAN is to support the environmental management and public use of U.S. lakes and estuaries by providing a useful and accessible approach to detecting and quantifying algal blooms and related water quality using satellite data records. Future efforts of this group seek to incorporate higher resolution satellite data to improve and expand the ability to monitor and forecast HABs.