For more information or questions
contact michael.jarvis@noaa.gov
coastalscience.noaa.gov | @noaacoastalsci

Coastal Harmful Algal Blooms in Florida

April 19th, 2023 — All Interested Parties Congressional Briefing

I. Overview of Harmful Algal Blooms in Florida

Florida is affected by multiple types of harmful algal blooms (HABs) across all parts of the state. Some HABs are naturally occurring in coastal waters, but may be increasing due to nutrient input and warmer waters. This table lists three main kinds that are receiving a lot of public concern.

	Issue and Causes	Impacts	NOAA's Role and Response
Red Tides	Seasonal blooms develop offshore. They are pushed towards shore by currents and wind, mostly on the west coast. Nutrient input may enhance or prolong blooms. Lake Okeechobee is unlikely to be a significant nutrient source.	**Health:** Toxins cause respiratory illnesses and Neurotoxic Shellfish Poisoning. Respiratory impacts are localized, often with beaches nearby experiencing different impacts. Impacts outdoor recreation, hospitality industries, and real estate values **Fish kills:** Severe impacts on fisheries, killing up to 30% of some important species in a single year.	**Forecasting:** NOAA produces a beach-level respiratory forecast of respiratory irritation. Goal is to forecast every beach, every day. **Monitoring:** Each week, FWC and partners collect and screen 100-150 coastal water samples for HABs and 50-70 samples for toxins. NOAA supplements this with imagery for Lake Okeechobee and SW FL, rapid response resources, and offshore samples from fishermen.
Freshwater CyanoHABs	CyanoHABs (aka blue-green algae) bloom in freshwater, caused by excess nutrients.	**Health:** Toxins can cause liver damage under chronic exposure to water. Humans, dogs, and livestock drinking untreated water can get sick or die. Inhalation may be an issue (more research needed). **Quality of life**: Blooms clog canals, look and smell foul. Impacts real estate values and recreation.	**Lake Okeechobee:** NOAA provides high resolution satellite imagery to the South Florida Water Management District and U.S. Army Corps of Engineers for decision-making on where to monitor and when to release lake water.
Sargassum	Since 2011, annual blooms of seaweed have moved onshore in the Caribbean and now FL.	**Beach debris:** High volumes washed ashore disrupts tourism and beach ecosystems. Lack of best management practices for disposal.	**Tracking:** NOAA uses satellite imagery to track the movement of seaweed masses. Sargassum Watch System provides an outlook bulletin. **Assessing impacts**: NOAA is assessing societal impacts of macroblooms in the Caribbean, and contaminants in *Sargassum* blooms.

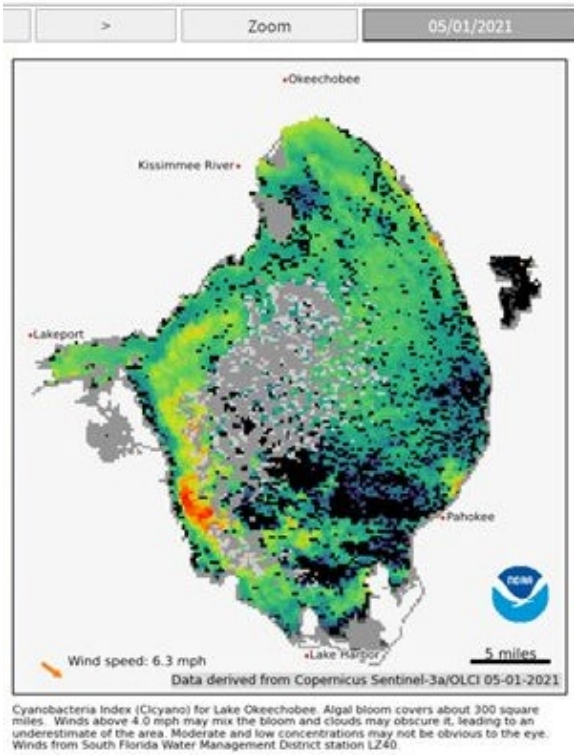
For more information or questions
contact michael.jarvis@noaa.gov
coastalscience.noaa.gov | @noaacoastalsci

II. Other NOAA Research on HABs in Florida

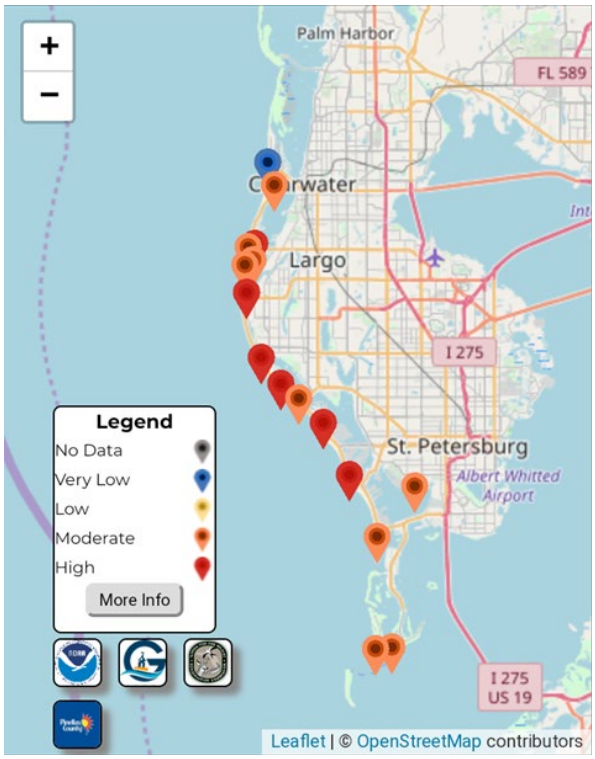
- NCCOS provides relevant, credible, timely science.
- Research: $5M, 5-year project to determine factors that maintain and terminate a bloom, with special emphasis on nutrients.
- HAB Control: $2.4M/year, 4-year projects to test modified clay and bacteria-based algaecide technologies for localized application (e.g., marinas, canals, small bays, coves, aquaculture).
- Socioeconomic Impacts: Assessing the societal and socioeconomic impacts of HABs in South Florida and Caribbean.

III. Harmful Algal Bloom and Hypoxia Research Control Act (HABHRCA)

- Legislation: HABHRCA mandates NOAA to advance the scientific understanding and ability to detect, monitor, assess, and predict HAB and hypoxia events.
- S. Florida Assessment: S. Florida Clean Waters Act of 2022 amends HABHRCA to require that NOAA submit an interim and Final Assessment of HABs and Hypoxia in S. Florida and an Action Plan.
- Coordination: NOAA is the lead federal agency for coastal HABs and works with EPA, USGS, Army Corps, and other federal agencies through the Interagency Working Group (IWG-HABHRCA).
- Reauthorization: HABHRCA is up for reauthorization in 2023.



Lake Okeechobee satellite monitoring



Red tide respiratory forecasts