

California CyanoHAB Network



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Cyanobacteria in California

- Concern Statewide
 - Klamath River
 - Pinto Lake
 - Clear Lake
 - Sacramento–San Joaquin River Delta
- Impacts many stakeholders
- Challenges to posting and public use of water bodies



The diagram features a central light blue umbrella with a grey handle. Four blue water droplets are positioned around the umbrella, each containing a level of government: 'Federal' (left), 'State' (top-left), 'Local' (top-right), and 'Tribal' (right). The text 'California CyanoHAB Network' is centered on the umbrella's canopy.

California CyanoHAB Network

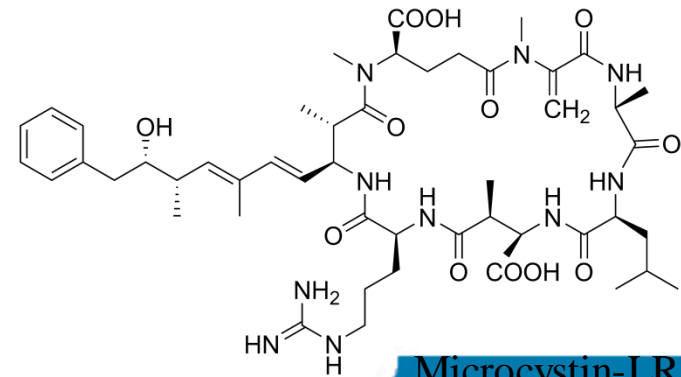
Develops a statewide framework to address CyanoHABs in California's freshwater and marine ecosystems.

California CyanoHAB Network

- Agencies (State Water Board, Regional Water Boards, OEHHA, DFW, CDPH, DWR, U.S. EPA, USGS, FWS)
- Tribal Governments (Karuk Tribe and Yurok Tribe)
- Local Health Departments (Siskiyou County, Humboldt County, Del Norte County)
- Cities (City of Watsonville, San Mateo)
- Academics and Researchers (UC Davis, UC Santa Cruz, Cal State MLML, SCCWRP, SFEI)
- Metropolitan Water and PacifiCorps
- Many others

California CyanoHAB Network Accomplishments

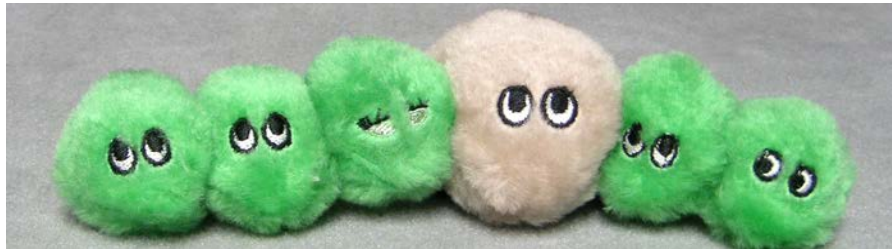
- Draft Voluntary Guidance about Harmful Algal Blooms
- OEHHA Report on Suggested Action Levels for Blue Green Algae Toxins (Cyanotoxins)
- Funded:
 - Water quality investigation on Klamath River Reservoirs
 - Development of LC-MS/MS methods for analysis of cyanotoxins
 - Investigated Sea Otter poisoning cases near Monterey Bay
 - Nonpoint source project for Pinto Lake



Microcystin-LR

California CyanoHAB Network Long-term Goals

1. **Coordinate monitoring and management** of cyanoHABs.
2. Develop **collaborative relationships** among entities responsible for addressing cyanoHAB concerns.
3. Make **efficient use of** resources to address and communicate cyanoHAB concerns.



California CyanoHAB Network

Next Steps

- Workgroup of the **California Water Quality Monitoring Council**
 - Development of a website
 - Development of a theme-based portal
- Draft Voluntary Guidance for Posting of Recreational Water Bodies
- SWAMP lead efforts on monitoring, lab and field guidance documents, and training

<http://www.mywaterquality.ca.gov/>



California's Surface Water Ambient Monitoring Program (SWAMP) Freshwater HABs Program



Lori Webber
SWAMP Coordinator
State Water Resources Control Board



SWAMP Cyanotoxin Projects

- Monitoring Strategy
- Satellite Projects
- Newsletter/Website
- Field and laboratory guidance documents
- Training
- Laboratory resources



Draft Freshwater HABs Monitoring, Assessment and Reporting Strategy

Goal: Develop a coordinated and widely supported statewide strategy for monitoring, assessment and reporting to inform management decisions for freshwater HABs

Objectives:

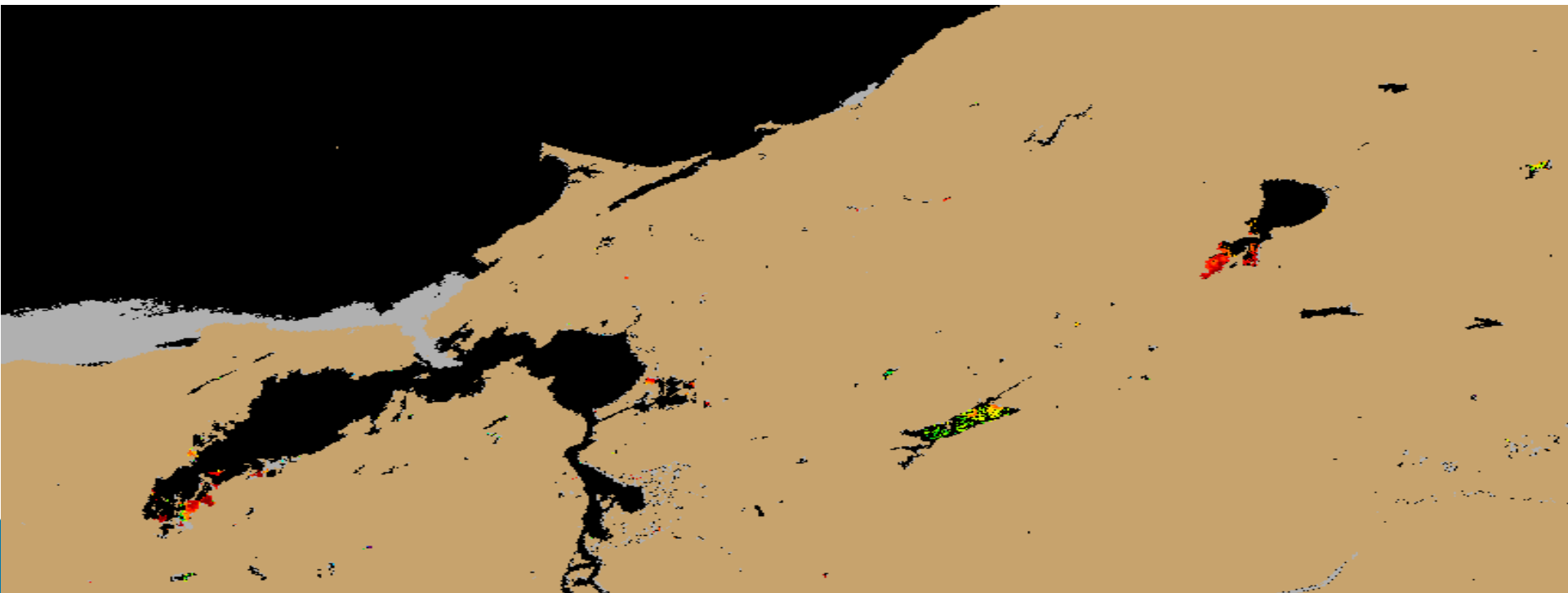
- Design a scientifically sound statewide program
- Identify scientific framework and resources
- Provide a strategic roadmap of technical resources, infrastructure and funding

Due August 2015



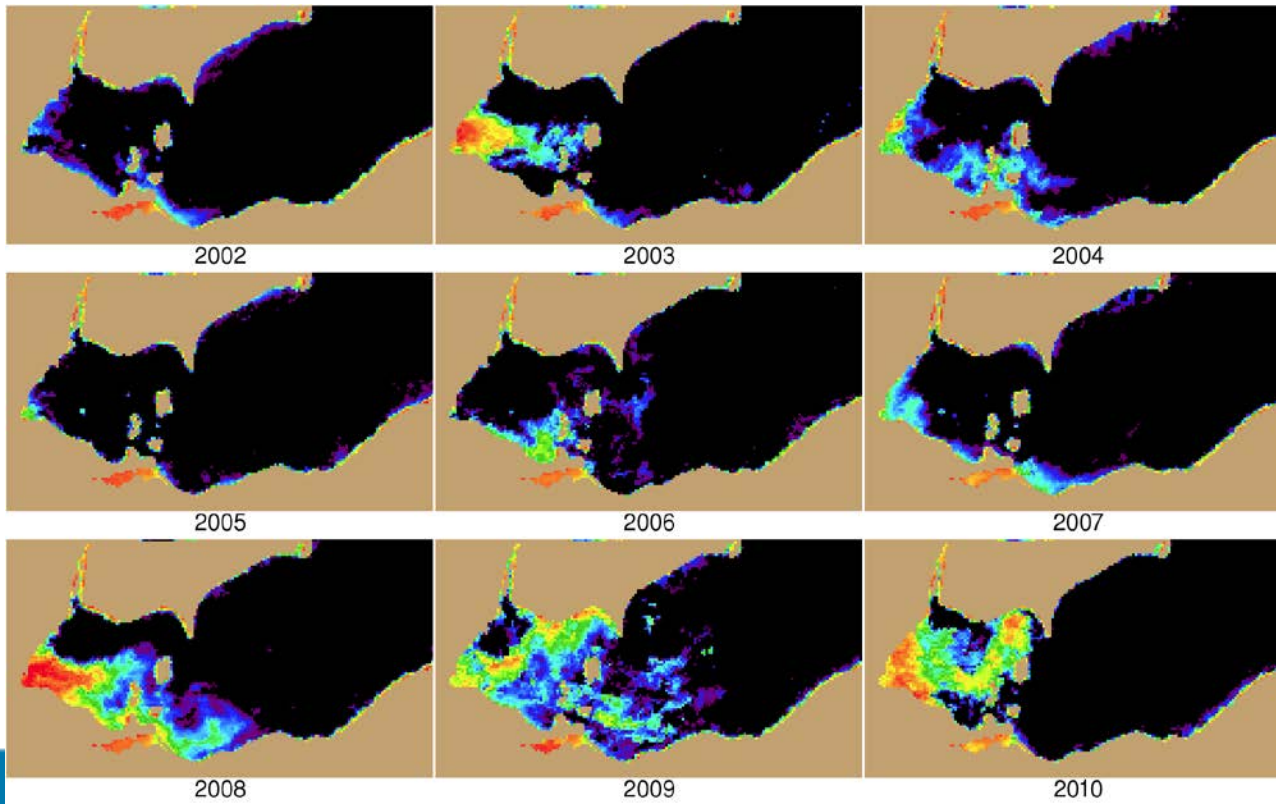
Satellite imagery and notification

- Retrieve and process imagery created by satellite (using NOAA procedure)
- Notify contacts when imagery indicates a bloom in near real time
- Respond to requests for follow up information



Status and trends report

- Status and trends summary report of cyanoHABs in Ca. using historic satellite imagery and lab data
 - Draft March 1, 2016
 - Final June 1, 2016



Newsletter/Website

- Biweekly (during bloom season) newsletter/bulletin (monthly in winter) which includes:
 - Inland HAB status report
 - Processed satellite imagery
 - Bloom and toxicity updates
 - Reports of human or animal illnesses or deaths
- Website: information uploaded to CCHAB's "My Water Quality" Portal



Guidance document

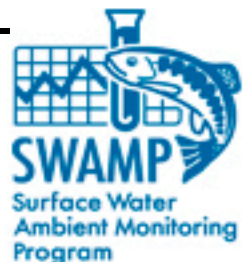
➤ Field section

- Compilation or development of SOPs for sampling for cyanotoxins in lakes/reservoirs, rivers, estuaries, marine waters and freshwater wetlands
- Health and safety recommendations/plan

➤ Laboratory section

- Compile SOPs for ELISA and LC MSMS analysis of cyanotoxins from five major labs in Ca.
- Development of a performance based QA system for cyanotoxins
- Development of a decision tree framework for analyzing cyanobacteria and cyanotoxins for event-response sampling

➤ Draft due Jan. 1, 2016, final due June 1st, 2016



Trainings



- NOAA training May 5 & 6, 2015
 - Overview of cyanoHABs and SWAMP program
 - Downloading & GIS analysis of satellite imagery
- State Water Board Training Academy and SWAMP
 - July 2015 -1 day in four locations
 - Background with reference materials
 - Field sampling protocols including health and safety
 - Taxonomy training in laboratory with microscopes
 - Overview of management options
 - Spring 2016 – 2- day in same 4 locations will add:
 - SWAMP CyanoHAB program and guidance documents
 - Field and laboratory analysis for cyanotoxins
 - Tiered approach to sampling and analysis
 - Use of website, database and how to report blooms
- SWAMP Training on management of cyanobacteria blooms - Fall 2015



Laboratory resources

- Cyanotoxin analysis for event based sampling for agencies, individuals and responsible parties

