With a Little Help from our Friends … Florida's Public Health Protection Strategies for Cyanobacteria and their Toxins

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Public Health Toxicology Section
Bureau of Epidemiology
Division of Disease Control and Health Protection

FLORIDA DEPARTMENT OF HEALTH

Aquatic Toxins
Disease Prevention Program

- Andrew Reich: Coordinator
- Caroline Collins: Epidemiology Specialist
- Becky Lazensky: Aquatic Public Health Epidemiologist

Public Health

Susceptible Populations

- Elderly
- Immuno-suppressed
- Underlying disease: Asthma
- Pregnant women, fetus
- Children
- People with extended exposure periods

Potential Exposure Pathways

Direct Skin Contact

Ingestion of Food

Incidental Ingestion

Drinking Water

Inhalation of Aerosols

Cyanobacteria Blooms in Florida

Permitted Fresh Water Bathing Places

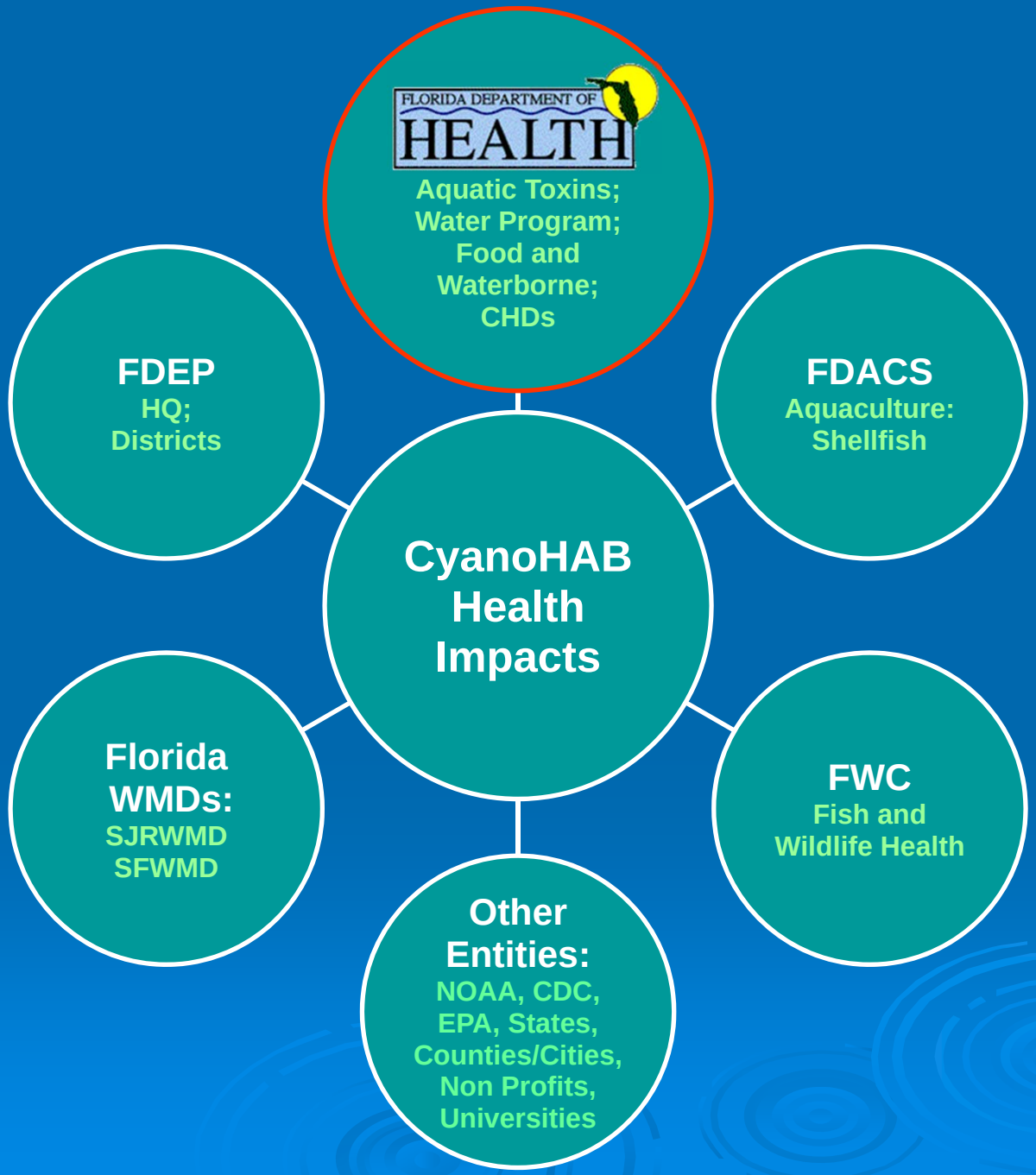
CyanoHAB Illness Reports, 2011

- 2011 Rash Interviews
- 13 Reports received (12 from FDEP, one from OH Dept of Health)
- 13 Interviews completed (100% interview rate!)
  - 9 suspect HAB-related rashes
  - 1 suspect HAB-related illness with fainting and ear pain, brief rash
  - 3 Determined not likely HAB-related

Florida's Drinking Water Resources

- 10-15% of Florida's population utilizes surface water supplies or drinking water
- 21 surface water plants in Florida now
- Floridan Aquifer unable to meet projected demands for 2020

Olga Water Treatment Plant,
Caloosahatchee River, Lee County


FLORIDA DEPARTMENT OF HEALTH
Aquatic Toxins; Water Program; Food and Waterborne; CHDs
FDEP
HQ; Districts
FDACS
Aquaculture: Shellfish
CyanoHAB Health Impacts
Florida WMDs:
SJRWMD
SFWMD
FWC
Fish and Wildlife Health
Other Entities:
NOAA, CDC, EPA, States, Counties/Cities, Non Profits, Universities

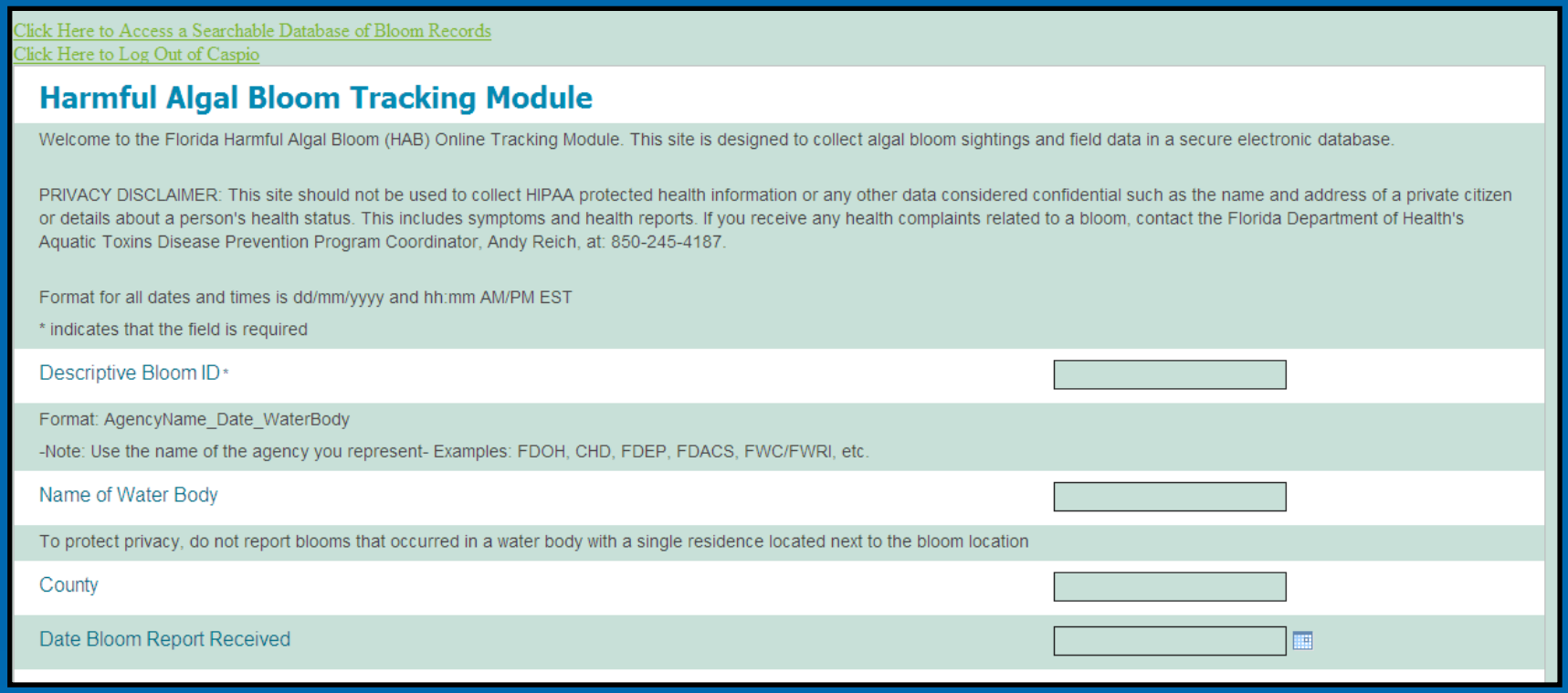
FWC Fish Kill Hotline

Report 5/8/2012

Bradenton - Manatee County - Hotline Call
We received a report of a large area of water discoloration near Bradenton Beach. The report initiator explained that the water had the appearance of black sludge. The water sample given to FWRI HAB staff indicated a bloom of the marine cyanobacteria *Trichodesmium erythraeum*. FWRI HAB will continue to monitor the situation.
Suspected Cause - Algae Bloom - (Call ID: 050712_17999)
Referred the call to FWC HAB &DEP

Catalina E. Brown
Fish Kill Hotline Coordinator
Fish & Wildlife Health
Florida Fish and Wildlife Research Institute
100 Eighth Avenue Southeast,
St. Petersburg, Fl 33701-5020
Phone: (727) 896-8626 ext. 3106
Fish Kill Hotline: (800) 636- 0511
Catalina.Brown@myfwc.com

Harmful Algal Bloom Tracking Module



Click Here to Access a Searchable Database of Bloom Records
Click Here to Log Out of Caspio

Harmful Algal Bloom Tracking Module

Welcome to the Florida Harmful Algal Bloom (HAB) Online Tracking Module. This site is designed to collect algal bloom sightings and field data in a secure electronic database.

PRIVACY DISCLAIMER: This site should not be used to collect HIPAA protected health information or any other data considered confidential such as the name and address of a private citizen or details about a person's health status. This includes symptoms and health reports. If you receive any health complaints related to a bloom, contact the Florida Department of Health's Aquatic Toxins Disease Prevention Program Coordinator, Andy Reich, at: 850-245-4187.

Format for all dates and times is dd/mm/yyyy and hh:mm AM/PM EST

* indicates that the field is required

Descriptive Bloom ID *

Format: AgencyName_Date_WaterBody

-Note: Use the name of the agency you represent- Examples: FDOH, CHD, FDEP, FDACS, FWC/FWRI, etc.

Name of Water Body

To protect privacy, do not report blooms that occurred in a water body with a single residence located next to the bloom location

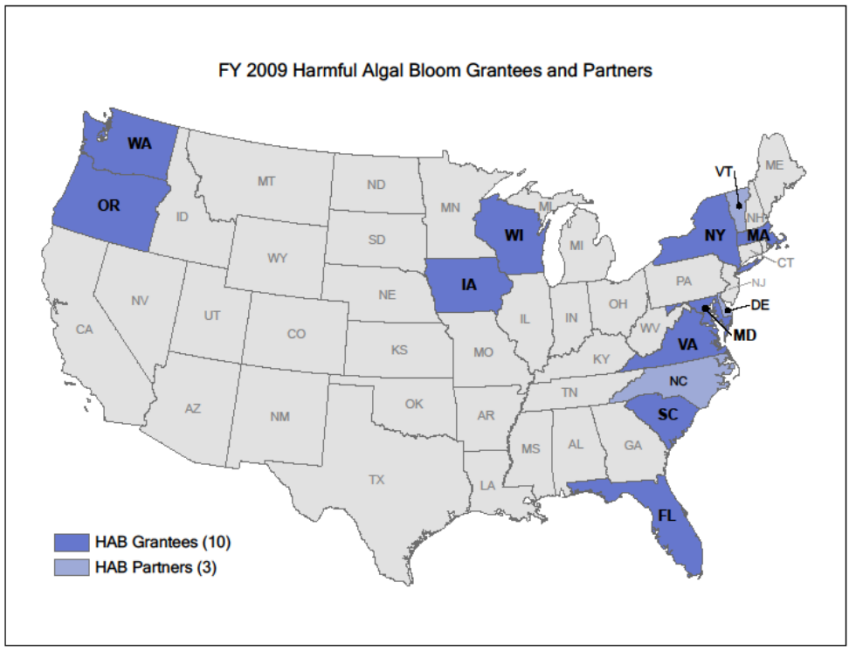
County

Date Bloom Report Received

- Bloom Recorder
- Bloom Reporter
- Agency Responding
- Site Visit

- Information is **accessible** to all stakeholders including other agencies sharing responsibility in protecting the public health
- Improved **response** to public health outbreaks
- Data **immediately available** without having to contact other agencies or County Health Departments

US CDC Cooperative Agreement to Enhance Surveillance of Risk Factors and Health Effects Related to Harmful Algal Blooms



- Association: link cases of illness with environmental data
- Detection: identify early cases
- Mitigation: limit exposures
- Prevention: prevent further cases

NASA Earth Science Division:

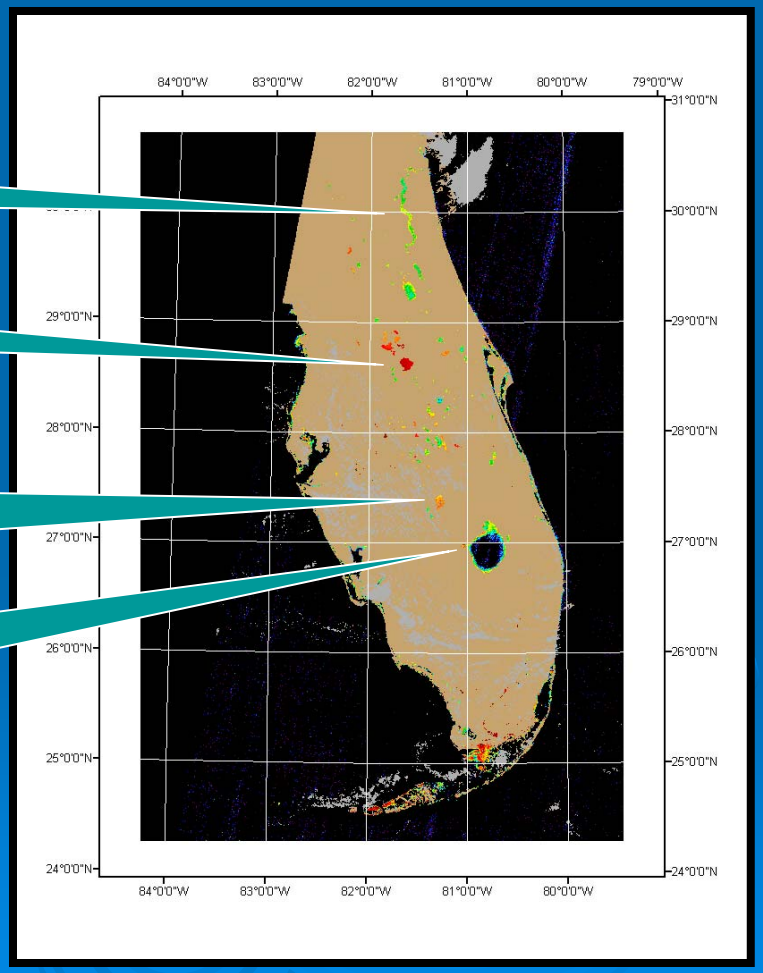
Monitoring and Forecasting Cyanobacterial Blooms for Public Health Protection and Response

St. Johns River

Lake Apopka

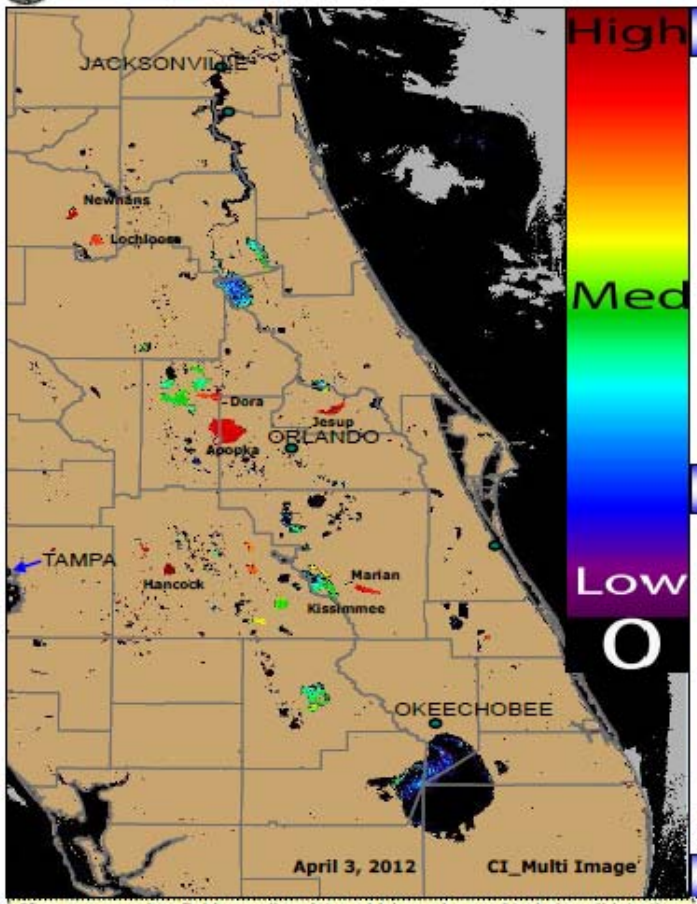
Lake Istokpoga

Lake Okeechobee



Experimental Cyanobacteria Health Bulletin: April 3, 2012

To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635.
For questions about the report: contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management Districts, The National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report was received through a NOAA/NASA Agreement (Number: NNH08ZDA001N)



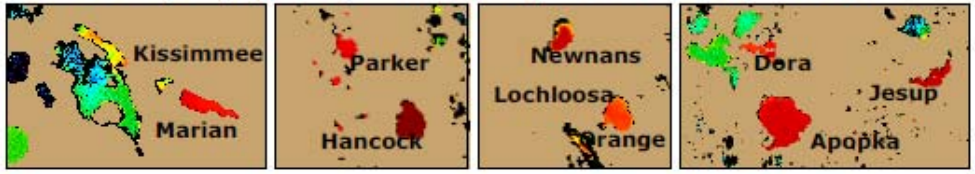
If your agency has field sampling data, which can be used to help validate the MERIS imagery, Contact Becky Lazensky at: 352-955-1900

MERIS Satellite Images display a cyanobacteria index generated with a Medium Resolution Imaging Spectrometer satellite provided by the European Space Agency & NOAA.

- Very low likelihood of a bloom
- May indicate clouds or missing data
- Low estimated cyanobacteria concentrations
- Medium estimated cyanobacteria concentrations
- Probable bloom or higher est. cyano. concentrations

Cyanobacteria HABs Conditions Report: April 3

- Lakes Kissimmee and Marian (Osceola County) displayed medium and high estimated cyanobacteria concentrations
- Lakes Parker and Hancock (Polk County) displayed high estimated cyanobacteria concentrations
- Newnans, Lochloosa, & Orange Lakes (Alachua & Marion Counties) and Jesup, Dora, and Apopka Lakes (Seminole, Lake, and Orange Counties) displayed high estimated cyanobacteria concentrations



ENVISAT SATELLITE IS DOWN-Impacts on MERIS Images

On April 8th, communications between the European Space Agency (ESA) and the Envisat satellite were lost. The Envisat satellite platform carries the MERIS sensor which captures the images featured in this bulletin. This will impede the production of MERIS satellite imagery until repairs are made or a new satellite is launched. The last MERIS image we have is the April 3rd image. NOAA may provide alternative MODIS imagery until communications are re-established. We will keep everyone updated on the progress. For more information visit: http://www.nature.com/news/workhorse-climate-satellite-goes-silent-

Envisat (Photo courtesy of European Space Agency)

Algal Bloom on the Caloosahatchee River-Update: April 13th

Olga, FL: An ongoing cyanobacteria bloom was reported in the Caloosahatchee River. Samples collected on April 2nd were positive for Planktothrix and Anabaena/Aphanizomenon dominant species. (Green Water Laboratories). These species of algae are potential toxin producers. Toxin testing is being conducted by Green Water Laboratories. The South Florida Water Management District plans to send down pulses of freshwater from Lake Okeechobee to 'flush' out the river and increase flows to the Caloosahatchee. The Lee County Health Department has issued a health advisory for the river.

Florida Poison Information Centers

1-800-222-1222

- Staffed by doctors, nurses and pharmacists
- Speak with a poison specialist
- Free, confidential service: 24/7, 365
- 3 Centers receive 550-600 total calls/ day
- > 25,000 calls since 1998 on Aquatic Toxins

FDOH EpiCom System

EpiCom
The Florida Department of Health

Forums | Inbox | Search | Active Topics | View My Profile | Edit Preferences | User Manual | Dashboard | Exit

Welcome **Andrew Reich**

The time now is 11:24:55 AM

Latest Forum Posts

Zoonotic Diseases - Rabies - Tuesday, September 28, 2010 at 10:37:16 AM
Arboviral Diseases - 2010 Mosquito-borne Disease Summaries - Monday, September 27, 2010 at 2:56:19 PM
Meningitis - Bacterial Meningitis - Monday, September 27, 2010 at 12:52:39 PM
Zoonotic Diseases - Rabies - Friday, September 24, 2010 at 7:38:16 AM
Vaccine Preventable Diseases 2010 - Pertussis - Friday, September 24, 2010 at 7:33:37 AM
Influenza and ILI - not H1N1 - Influenza Surveillance - Thursday, September 23, 2010 at 5:14:43 PM

Forum Statistics

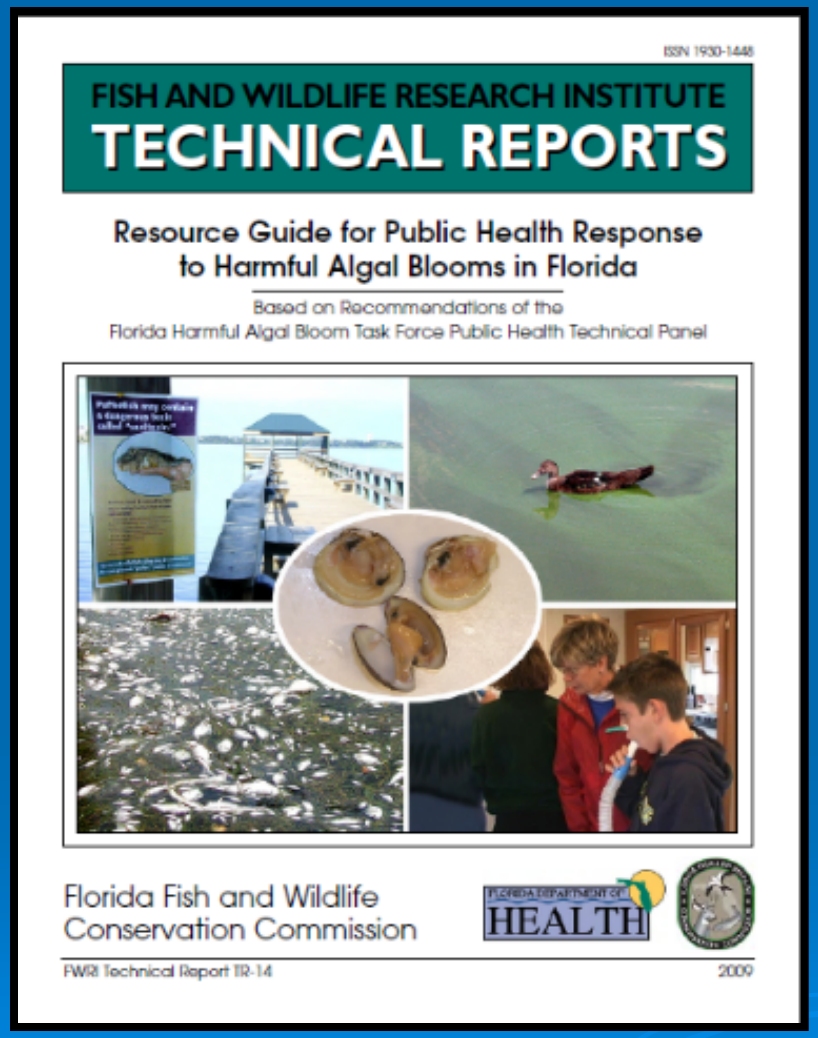
There are 4998 Posts in 293 Topics in 48 Forums
Last Post on Tuesday, September 28, 2010 at 10:37:16 AM
Last Post by walshdj
There are 1169 Forum Members
The Newest Forum Member is hparth

Page 1 of 2

Forum (View All / Expand Topics)	Posts	Last Post
Zoonotic Diseases		
2008 Hurricane Season		
2008 Wildfires		
2010 Haiti Earthquake		
Anthrax		
Antimicrobial Resistance		
Aquatic Toxins		
Blue Green Algae	16	Wednesday, June 16, 2010 at 2:55:25 PM By reichar
Red Tide	181	Friday, September 17, 2010 at 3:45:24 PM By reichar

Aquatic Toxins "Forum"

Resource Guide for Public Health Response to HABs in Florida



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TECHNICAL REPORTS

Resource Guide for Public Health Response to Harmful Algal Blooms in Florida

Based on Recommendations of the Florida Harmful Algal Bloom Task Force Public Health Technical Panel

Florida Fish and Wildlife Conservation Commission

FLORIDA DEPARTMENT OF HEALTH

FWRI Technical Report TR-14 2009

Background

Responsibility

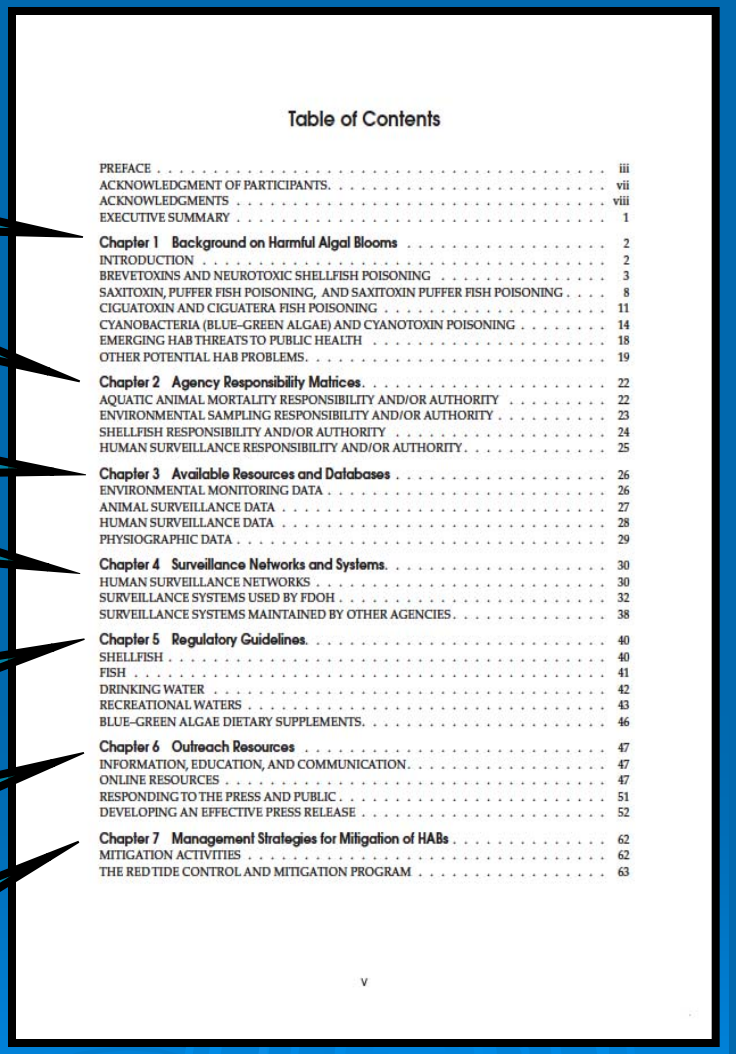
Databases

Surveillance

Regulations

Outreach

Management



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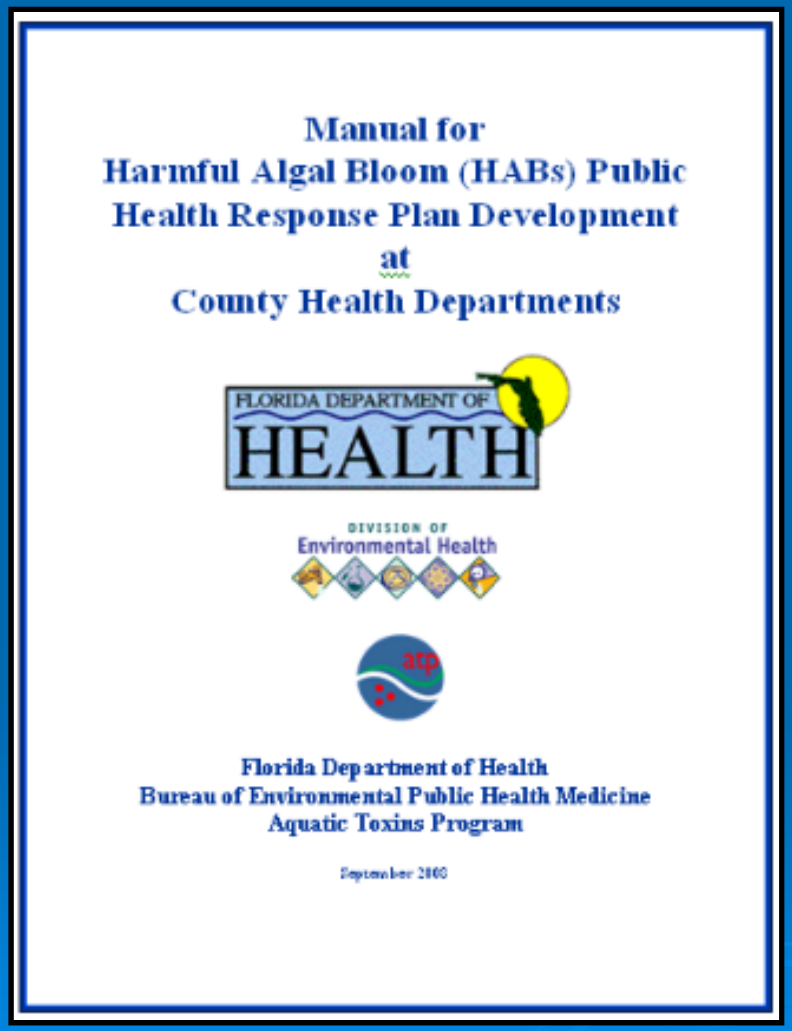
http://www.myfloridaeh.com/medicine/aquatic/resourceguidepublichealth.pdf

Developing Local FDOH County Health Department HAB Response Plans



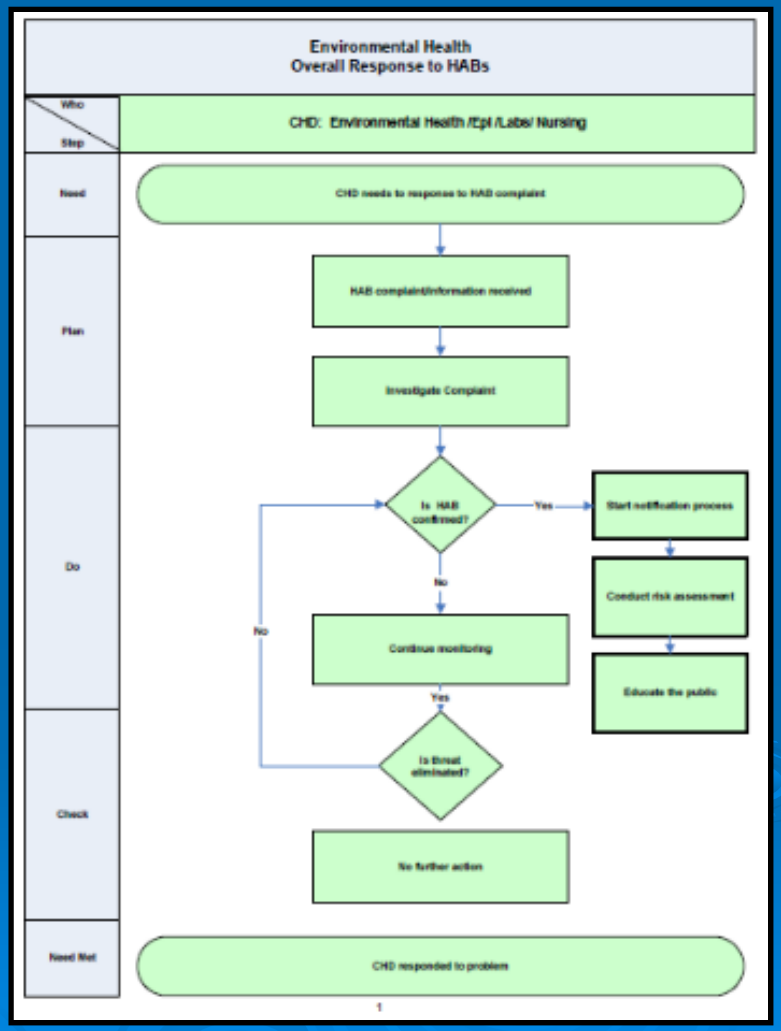
Manual for
Harmful Algal Bloom (HABs) Public
Health Response Plan Development
at
County Health Departments

FLORIDA DEPARTMENT OF HEALTH

DIVISION OF Environmental Health

Florida Department of Health
Bureau of Environmental Public Health Medicine
Aquatic Toxins Program

September 2000



Harmful Algal Blooms (HABs) County Vulnerability and Risk Assessment (continued)

Division of Environmental Health

Part III HAB RESOURCE IDENTIFICATION

9. What other agencies/organizations have been involved in HAB monitoring and/or response in your county?

Agency Name	Agency Contact Name	Email	Phone
Coast Guard Auxiliary	Ron Piasecki	Ron_Piasecki@earthlink.net	
FWC Commercial Fisherman Volunteer Program			
FWC			
FDACS			
FDEP			

10. What other agencies/organizations are performing monitoring or testing for Florida Red Tide in your county?

Agency Name	Agency Contact Name	Location of Testing/Monitoring	Frequency
FSU			
(see above for additional contacts)			

11. What other agencies/organizations are performing monitoring or testing for Blue Green Algae/Cyanobacteria in your county?

Agency Name	Agency Contact Name	Location of Testing/Monitoring	Frequency
Florida Dept of Health	Andrew Reich	Wakulla Springs	as funding is available
Florida DEP			

12. What other agencies/organizations are performing monitoring or testing for Ciguatera in your county?

Agency Name	Agency Contact	Location of Testing/Monitoring	Frequency
Florida Department of Health	Rick Hutchinson	Fish Remnant post illness detection: fish sample collection	Event Driven
FDA	Bob Dickey	Fish Remnant post illness detection; lab analyses	Event Driven
Florida Department of Health	Kris Whitten	Fish Remnant post illness detection: fish sample collection	Event Driven

13. What other agencies/organizations are performing monitoring or testing for Saxitoxin in your county?

Agency Name	Agency Contact	Location of Testing/Monitoring	Frequency

Additional Comments on Part III:

Harmful Algal Blooms (HABs) County Vulnerability and Risk Assessment (continued)

Division of Environmental Health

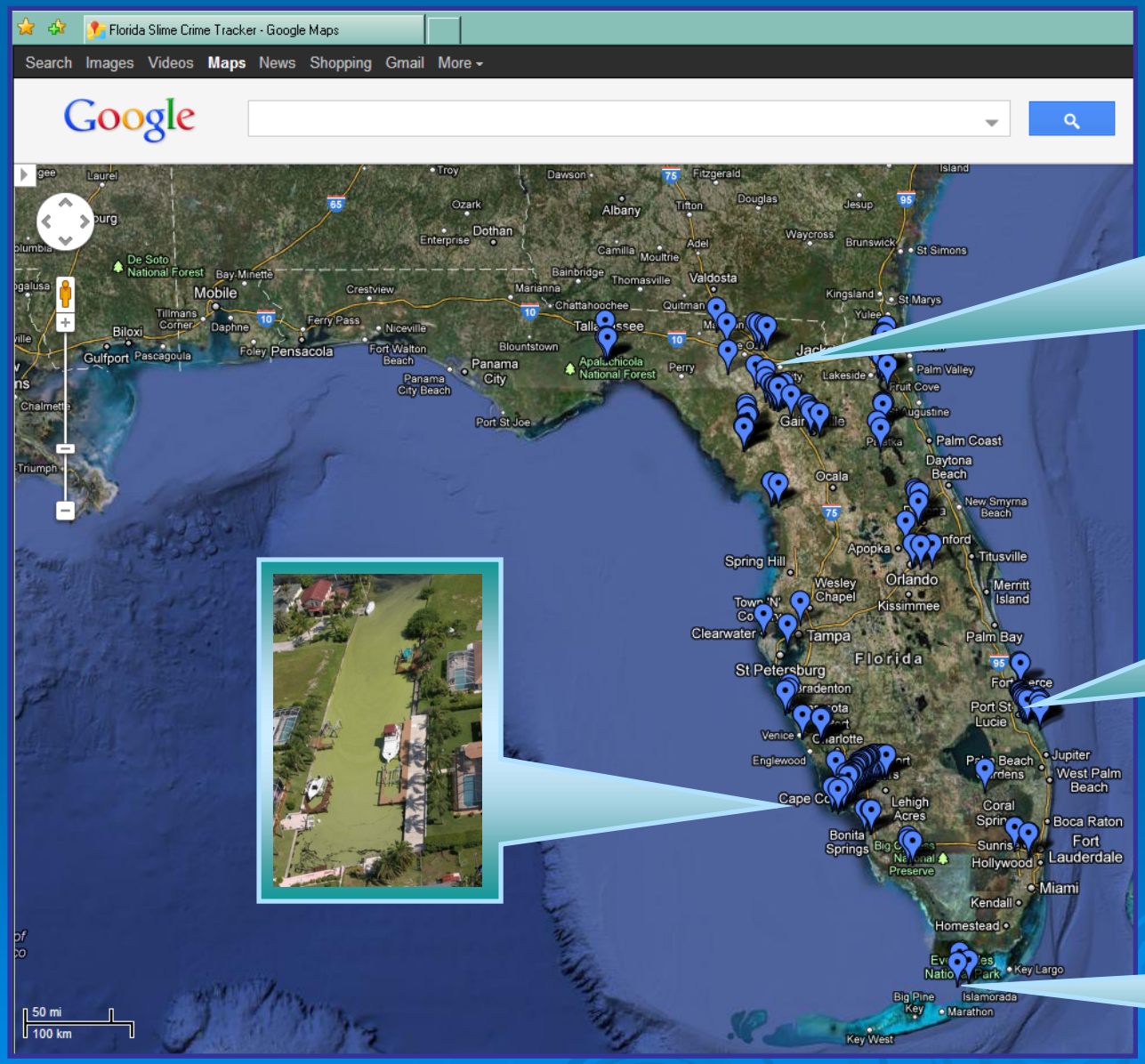
Part IV VULNERABILITY AND RISK CHARACTERIZATION

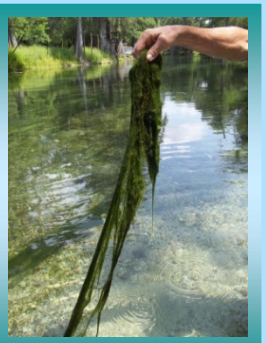
14. What are the names of fresh water and/or salt water bodies 5 acres or larger in your county?

Water Body Name	Fresh	Salt	Brackish
Wakulla River			X
St. Marks River			X
Sopchoppy River			X
Ochlockonee River			X
Ochlockonee Bay		X	
Oyster Bay		X	
Dickerson Bay		X	
Goose Creek Bay		X	
Apalachee Bay		X	
Otter Lake	X		
Long Lake	X		
Lake Ellen	X		
Wakulla Springs	X		
Shepherd Spring	X		
Sally Ward Spring	X		

Add additional water bodies as addendum on last page of document

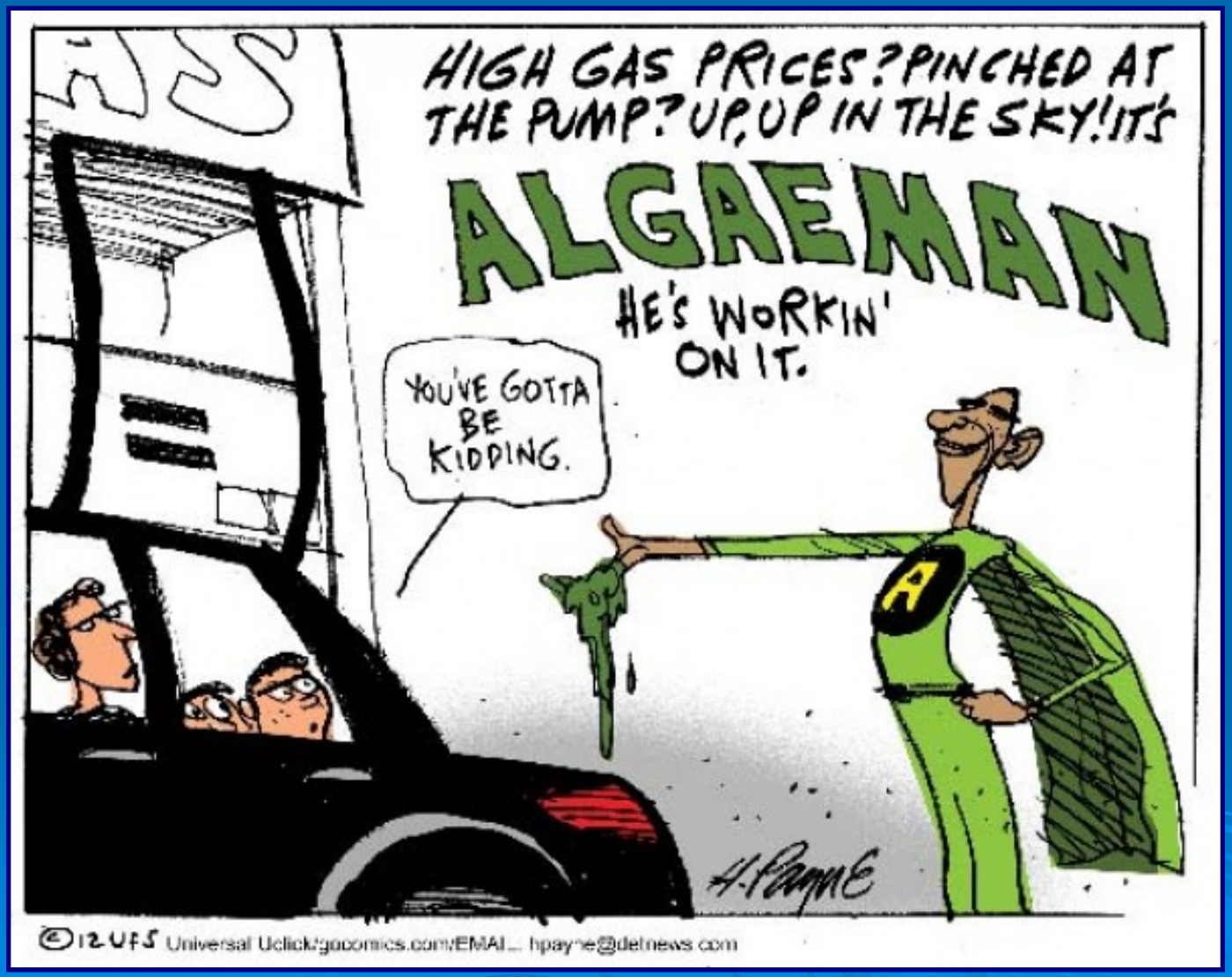
Florida Slime Crime Tracker





ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
SJR
FLORIDA
FDACS
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
UNIVERSITY OF NORTH FLORIDA
USGS
science for a changing world
CDC
SAFER • HEALTHIER • PEOPLE
FLORIDA DEPARTMENT OF HEALTH
POISON Help
1-800-222-1222
MOTE MARINE LABORATORY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
GreenWater laboratories
NOAA
UNIVERSITY OF MIAMI
RSMAS
ROSENSTIEL SCHOOL OF MARINE & ATMOSPHERIC SCIENCE

Future of Algae …



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- **National Science Foundation: Modeling the Dynamics of Harmful Algal Blooms, Human Communities, and the Social Choice of Behavioral and Policy Responses along the Fl Gulf Coast, Award**

  # 1009244

- **NOAA/NASA: Monitoring and Forecasting Cyanobacterial Blooms for Public Health Protection and Response**

Aquatic Toxins Disease Prevention Program

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