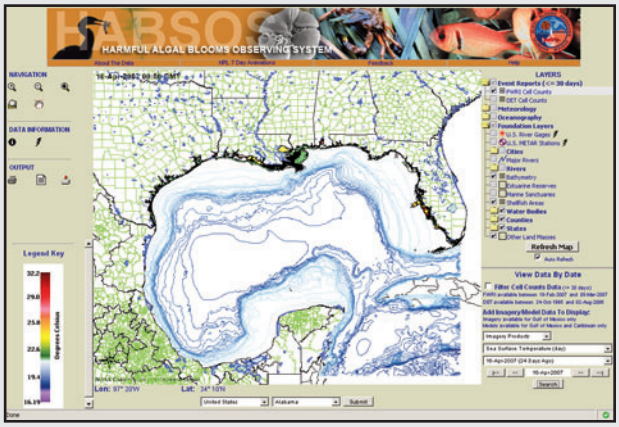
Harmful Algal Blooms Observing System (HABSOS)

National Coastal Data Development Center
www.ncddc.noaa.gov

The Harmful Algal Blooms Observing System (HABSOS), a regional coalition of U.S. and Mexican federal and state agencies, works together to study harmful algal blooms within the Gulf of Mexico ecosystem. Toxins released into the ecosystem during harmful algal blooms can seriously impact the health of both people and marine life, as well as greatly disrupt local and regional economies. Coastal managers and researchers are now challenged to monitor, assess, and even forecast harmful algal blooms to work toward minimizing these impacts.

The HABSOS website and Internet tools—developed by the U.S. Environmental Protection Agency (EPA) Office of Research and Development, the EPA Office of Water Gulf of Mexico Program, and NOAA's National Coastal Data Development Center—are available in both English and Spanish. Karenia brevis, which is the organism responsible for the harmful algal blooms known as "red tide," is the only species observed. Data entered into this system can be viewed in the HABSOS Interactive Map Service (IMS). The IMS also gives the user the ability to combine the harmful algal bloom data with other observations, such as wind and currents, and with models based on data from NOAA's National Weather Service and National Data Buoy Center.



HABSOS Data Entry Tool and Interactive Map Service

The Internet Map Service (IMS) displays data collected by the Data Entry Tool. The IMS display also combines harmful algal bloom data with models, satellites, and surface wind data for analysis.

The HABSOS and the BiNational HABSOS were developed and continue to be supported by the U.S. Environmental Protection Agency (EPA) Office of Research and Development, the EPA Office of Water Gulf of Mexico Program, and the NOAA National Coastal Data Development Center.

Current HABSOS Issues Being Addressed:
The HABSOS website and internet tools are currently being updated and HABSOS 2nd Generation should be available in 2012.

For more information:

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- Please visit our web site: **http://habsos.noaa.gov**

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HABSOS *2nd Generation*

The next generation of HABSOS will be built around a completely new software package with three goals in mind.

- **Easy to use for the public**
  - Modern, user-friendly mapping layer
  - One-click access to pertinent HAB products
  - Simplified scientific terminology
  - Enhanced glossary of terms accessible through the map
- **Advanced features for scientists**
  - Archived data will be made available for scientific use
  - NCDDC automated data collection service from sources
    - Users no longer upload data through the data entry tool
  - Advanced data products for scientists and experts
    - Fluorescence line height, enhanced RGB images, Turbidity Index, Reflectance, Advected Pixels, Chlorophyll anomaly, and American Seas Model
- **Better monitoring coverage**
  - Integrated with the Phytoplankton Monitoring Network data
  - Addition of Brevebuster data
  - Integrated with the NOAA Harmful Algal Bloom Operational Forecast System (HAB-OFS)
  - Addition of over 90 noxious and toxic species native to the Gulf of Mexico

Dinoflagellates

Alexandrium spp.
Amphidinium spp.
Azadinium spp.
Coolia spp.
Cochlodinium polykrikoides
Dinophysis spp.
Gambierdiscus spp.
Gonyaulax spp.
Gymnodinium spp.
Heterocapsa circularisquama
Karenia spp.
Karlodinium veneficum
Lingulodinium polyedrum
Ostreopsis spp.
Phalacroma spp.

Dinoflagellates (cont)

Prorocentrum spp.
Protoceratium reticulatum
Pyrodinium bahamense
Scrippsiella spp.
Takayama tuberculata

Diatoms

Amphora coffeaeformis
Cylindrotheca closterium
Dactyliosolen fragilissimus
Guinardia spp.
Proboscia alata
Pseudo-nitzschia spp.
Pseudosolenia calcar-avis
Rhizosolenia spp.
Skeletonema spp.

Flagellates

Chattonella spp.
Chrysochromulina polylepis
Fibrocapsa japonica
Heterosigma akashiwo
Phaeocystis spp.
Prymnesium parvum
Pseudochattonella verruculosa

Brown Tide

Aureoumbra lagunensis

NOTE: *Will add toxic/nuisance cyanobacteria (e.g., Trichodesmium, Lyngbya, Microcystis, etc.) that can occur in marine waters if users request.*

Photo credit: Credit: Chase Fountain, Texas Parks & Wildlife