

Photo credit: NOAA, TPWD, FWRI, WHOI

Issue 4 May 2013



# NOAA HAB-OFS Newsletter

Welcome to the NOAA HAB-OFS Quarterly Newsletter. We are always happy to hear from you so please send your topic suggestions, questions, comments and feedback to [hab@noaa.gov](mailto:hab@noaa.gov).

## In this issue:

- *HAB-OFS Conditions Report Gets a Facelift*
- *A Recap of This Year's Florida Bloom*
- *New Webpages on the HAB-OFS Website*
- *Data Provider Spotlight: Red Tide Rangers*

## Harmful Algal Bloom Conditions Report Gets a Facelift

To deliver informative and easy to understand products to the public, the HAB-OFS team has proposed a new look for the HAB bulletin's public conditions report. During the peak of this year's bloom, HAB forecasters began receiving feedback that the conditions report was bookish and relevant information was difficult to discern, which was especially apparent when impacts were forecasted in half-county increments from Tampa Bay to the Florida Keys.

In the new format, conditions will be listed sequentially, from north to south. The severity and duration of conditions for each region will be noted in an abbreviated format that will allow busy resource managers and beachgoers alike to quickly locate their region of interest. This list will still contain information such as recent fish kills and respiratory irritation reports and will be flanked by our standard narrative and links to additional resources.

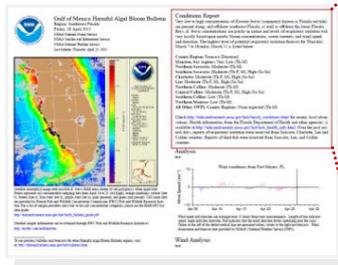


Figure 1. A bulletin with the new Conditions Report format.

**Conditions Report**  
 Very low to high concentrations of *Karenia brevis* (commonly known as Florida red tide) are present along- and offshore southwest Florida, as well as offshore the lower Florida Keys. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Thursday, March 7 to Monday, March 11 is listed below:

**County Region: Forecast (Duration)**  
 Manatee, bay regions: Very Low (Th-M)  
 Northern Sarasota: Moderate (Th-M)  
 Southern Sarasota: Moderate (Th-F, M), High (Sa-Su)  
 Charlotte: Moderate (Th-F, M), High (Sa-Su)  
 Lee: Moderate (Th-F, M), High (Sa-Su)  
 Northern Collier: Moderate (Th-M)  
 Central Collier: Moderate (Th-F, M), High (Sa-Su)  
 Southern Collier: Low (Th-M)  
 Northern Monroe: Low (Th-M)  
 All Other SWFL County Regions: None expected (Th-M)

Check [http://tidesandcurrents.noaa.gov/hab/beach\\_conditions.html](http://tidesandcurrents.noaa.gov/hab/beach_conditions.html) for recent, local observations. Health information, from the Florida Department of Health and other agencies, is available at [http://tidesandcurrents.noaa.gov/hab/health\\_info.html](http://tidesandcurrents.noaa.gov/hab/health_info.html). Over the past several days, reports of respiratory irritation were received from Sarasota, Charlotte, Lee and Collier counties. Reports of dead fish were received from Sarasota, Lee, and Collier counties.

This facelift is a demonstration of the HAB team's commitment to providing relevant products that are informative and responsive to the needs of our users. The changes will be tested and implemented when the team resumes the once weekly bulletin schedule. For current conditions reports, visit the HAB-OFS webpage at: [http://tidesandcurrents.noaa.gov/hab/#red\\_tide\\_status](http://tidesandcurrents.noaa.gov/hab/#red_tide_status).

## *Karenia brevis* Concentrations Continue to Linger in Southwest Florida

Lingering background to very low concentrations in the Lee County area are all that is left of the bloom that plagued the coast of southwest Florida since September. Combining wind forecasts with MODIS AQUA imagery, the HAB-OFS team correctly predicted the southern transport of *K. brevis* concentrations from the end of January through March as sampling began to show that the bloom was dissipating alongshore Manatee, Sarasota, and Charlotte counties.

While bloom-levels typically dissipate in mid-winter, this bloom's persistence has reduced the off-season window for coastal residents before the next bloom season begins August 1<sup>st</sup>. The bloom has also now become the deadliest on record for the endangered Florida manatee. At press time, the Florida Fish and Wildlife Conservation Commission (FWC) had recorded 268 manatee deaths as a result of brevetoxin exposure, a number that far surpasses the previous record of 151 manatees claimed by *K. brevis* in 1996.

Since September 24<sup>th</sup>, 2012, the HAB team has spent over 750 hours providing forecasts and disseminated 60 bulletins, 9 conditions updates and 1 supplemental bulletin. Preliminary analysis of the assessable forecasts indicates the HAB team has made a high proportion (88%) of correct transport forecasts and has been flawless (100% correct) in predicting intensification forecasts. In addition, a high proportion of the forecasts for high levels of respiratory irritation have been confirmed correct (92.5%). Of the forecasts issued via the National Weather Service Beach Hazards Statements, greater than 89% have been confirmed correct. As this bloom lingers, the HAB team will continue to work with their partners in Florida to monitor ecological conditions, assess forecasts, and continue to refine the HAB-OFS.

## Two New Webpages Added to the HAB-OFS Website

The [Current Beach Conditions and Community Resources](#) webpage provides links to organizations in both Florida and Texas that provide frequent red tide sampling results and observations of impacts. This is important because our forecasts err on the side of caution by forecasting the highest potential level of respiratory irritation for a half-county region, but *Karenia brevis* bloom conditions can vary from beach to beach and change rapidly throughout the day for a variety of reasons including changing wind conditions, bloom movement and fluctuations in the toxicity of the cells. Pairing recent observations with our forecasts, our goal is to help people to find unaffected beaches nearby.



**Figure 2.** The new Current Beach Conditions and Community Resources webpage.

The [HAB Health Information](#) page highlights common health impacts associated with *K. brevis* blooms and suggests actions people can take to keep themselves, their families, and their pets healthy during a bloom. Links to resources, like the Florida Department of Health and Texas Department of State Health Services websites, are also provided.

## Data Provider Spotlight: Texas Red Tide Rangers

Local and regional data providers are critical to the success of the HAB-OFS, providing the data necessary to develop accurate and timely forecasts of bloom movement and respiratory irritation. In this newsletter, we highlight the efforts of the Texas Red Tide Rangers.

The massive 2011 Texas red tide bloom was one of the longest lasting and largest blooms on record for Texas, covering the coastline and inshore bays and waterways from South Padre Island to the Galveston region. Along the Texas coast, initiating blooms can be difficult to detect in the satellite imagery used by the HAB-OFS team, making in-situ sampling invaluable. The Red Tide Rangers, who identified the first bloom level concentrations, performed routine sampling of sites along the South Padre Island area throughout the season. The high sampling frequency (450 *K. brevis* samples in five months, sometimes even on weekends) enabled the HAB-OFS team to confirm suspected bloom features identified from satellite imagery, track daily fluctuations in the bloom concentrations and accurately forecast and assess respiratory irritation.

**Who:** Texas Red Tide Rangers – a volunteer network of about 30 participants

**Coverage:** South Padre Island region (i.e. Gulf coast, lower Laguna Madre, and Brownsville Ship Channel)

**Data Provided:** Water samples to determine *K. brevis* concentrations & impact observations (including respiratory irritation, dead fish and discolored water).

**History:** The Red Tide Rangers were formed by Tony Reisinger, a county extension agent for coastal and marine resources at Texas Sea Grant, and Dan Hockaday, director at the University of Texas-Pan American's Coastal Studies Laboratory, in response to a bloom in 1996. Unable to collect and analyze the number of samples needed for appropriate coastal monitoring, the two began training volunteers to collect water samples throughout the South Padre Island region. The initial group of about 20 volunteers was dubbed the *Texas Red Tide Rangers*. Subsequent training would also include water sample analysis including the identification and counting of *K. brevis* cells.

**Partner Praise:** “There’s no other network like them along the Texas coast. Without them, we wouldn’t be getting the kind of data we need.” – Meridith Byrd, Harmful Algal Bloom Response Coordinator at the Texas Parks and Wildlife Department.

## Many Thanks to our Partners and Data Providers

<http://tidesandcurrents.noaa.gov/hab/contributors.html>

*This newsletter was written and designed by:*

NOAA/National Ocean Service  
Center for Operational Oceanographic Products and Services (CO-OPS)  
National Center for Coastal Ocean Science (NCCOS)

*Please send us your feedback and topic suggestions:*

Email: [hab@noaa.gov](mailto:hab@noaa.gov)

Web: <http://tidesandcurrents.noaa.gov/hab>

Facebook: <http://www.facebook.com/Habredtidewatchnoaagov>

