

Photo credit: NOAA, TPWD, FWRI, WHOI



Issue 14 December 2015

# 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:

- *Florida & Texas 2015 Bloom Summaries*
- *8th Symposium on Harmful Algae in the U.S.*

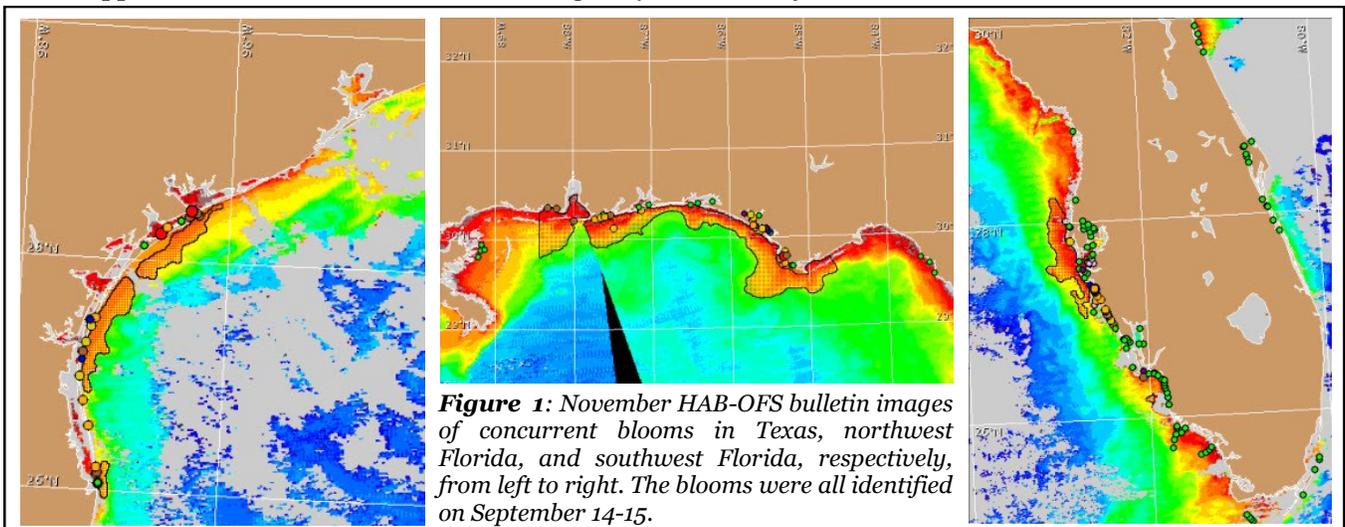
## Three Blooms Identified Simultaneously in Texas and Florida

This year's bloom season is still in full swing and has already made HAB-OFS history! On September 14<sup>th</sup> and 15<sup>th</sup>, three *Karenia brevis* blooms were detected alongshore Texas, the northwest Florida panhandle, and southwest Florida all within a 24-hour window. Concurrent blooms in both Texas and Florida are actually *NOT* uncommon; there have been *K. brevis* blooms in both states during 2012 and 2014. However, the team has never had two blooms identified on the same day, and so to have three blooms detected within a 24-hour period is extraordinary!

On September 14<sup>th</sup>, a suspected bloom of *K. brevis* and several fish kills along Mustang Island and throughout the Padre Island National Seashore region were reported to the Texas Parks and Wildlife Department (TPWD). Unfortunately for HAB forecasting, much of the week preceding these reports was plagued by poor imagery, making early-detection of the bloom difficult. Even trickier, the Texas A&M University Imaging FlowCytobot, a valuable tool used to monitor for *K. brevis* at Aransas Pass, was reporting only background concentrations of the algae. TPWD and other Texas HAB-OFS partners quickly sprang to action and began sampling along the suspected coastline and by the following day had confirmed a *K. brevis* bloom along the Texas coast.

At the same time in Florida, officials from the Florida Wildlife Research Institute (FWRI) and Mote Marine Lab (MML) began detecting *K. brevis* in water samples collected from northern Sarasota County, accompanied by reports of respiratory irritation in southern Manatee County. On the same day, FWRI also received samples from the Panhandle containing 'low a' concentrations of *K. brevis* along Cape San Blas and Indian Pass in Gulf County. These samples were accompanied by a report of respiratory irritation from a public beachgoer at Bid-a-Wee Beach in Bay County.

Since this unforgettable day, all three blooms expanded significantly. In Texas, the bloom of *K. brevis* expanded north and south, at one point extending from Galveston Bay to south of the US/Mexico border. In northwest Florida, the *K. brevis* bloom discovered in Gulf County has steadily drifted westward and high concentrations can be found as far west as Mississippi. The bloom in southwest Florida, originally confined to just southern Manatee and northern Sarasota,



**Figure 1:** November HAB-OFS bulletin images of concurrent blooms in Texas, northwest Florida, and southwest Florida, respectively, from left to right. The blooms were all identified on September 14-15.

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now stretches from northern Pinellas County all the way south to Collier County. Extensive fish kills and respiratory irritation have been linked to all three blooms.

Though the concurrent blooms in the Gulf of Mexico are a cause of worry for local residents and visitors, they have also highlighted the efforts of the monitoring and response network between Gulf coast states. Since September, the NOAA HAB-OFS has received data from numerous partners including FWRI, TPWD, MML, as well as partners such as the Food and Drug Administration and the Alabama Department of Public Health. Until these blooms subside, the HAB-OFS team can continue to provide accurate and detailed forecasts thanks to the seamless cooperation with these organizations.

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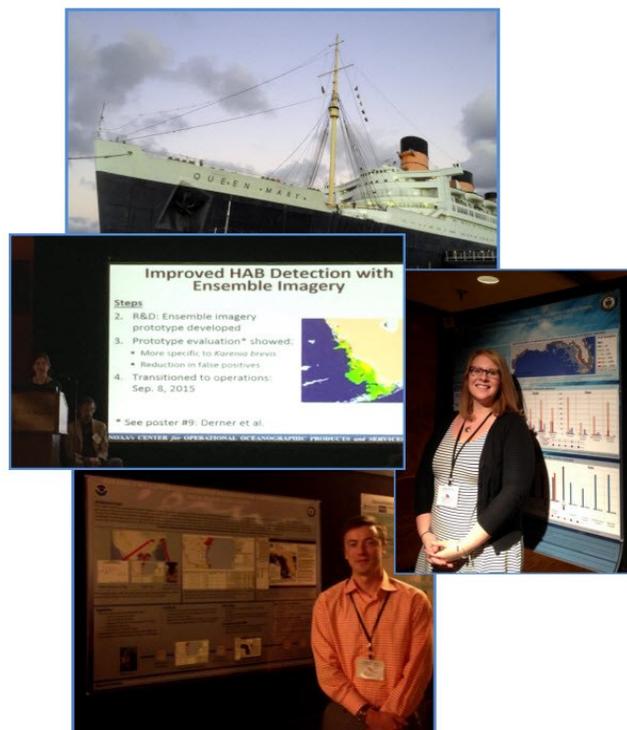
## HAB-OFS Team Survives HAB Symposium aboard the “Haunted” Queen Mary

The NOAA HAB-OFS group recently participated in the 8<sup>th</sup> Symposium on Harmful Algae in the U.S., a conference highlighting the latest research in the field of harmful algae, hosted this year aboard the (haunted) Queen Mary Hotel in Long Beach, CA from November 15-19. The conference was attended by over 200 scientists, stakeholders, vendors, and students from across the country, involved in the research, mitigation, and management of freshwater and marine harmful algae species.

Topics covered at the Symposium spanned a wide range of HAB-related research including genetics, molecular biology, ecology, technology, management and mitigation. This year’s conference had a greater emphasis on cyanobacteria and other freshwater HABs, including in Lake Erie where NOAA is currently planning the transition of its demonstration forecast product to operations.

HAB-OFS team members gave several talks and poster presentations at the conference. In a NOAA Special Session, a team presentation discussed the current and future efforts of the HAB-OFS team to improve and expand the program, transitioning research to operations. Forecast assessment results, product enhancements, and future developments included in the presentation were further highlighted through additional speed-talk and poster presentations. A speed-talk focused on the evaluation and adoption of ensemble imagery on the Florida HAB-OFS bulletins as of September 8<sup>th</sup> of this year, spawning discussions about other potential applications of ensemble imagery products. Two additional poster presentations by the team included (1) the proposed next-generation geospatial infrastructure currently being developed to manage HAB forecasting data and (2) results of the assessment of transport and respiratory irritation forecasts in Texas and Florida from 2010-2015.

Information and insights gained from the meetings, presentations, and conversations at the conference will guide improvements to the forecast system and bulletin dissemination. For more information about the Symposium, visit the [conference website](#). To view NOAA HAB-OFS team posters and presentations from the Symposium, as well as past conferences, visit our [Publications](#) page.



**Figure 2:** (clockwise from top): The Queen Mary; HAB Team members Ana Keeney and Ed Davis next to their posters in the Bloom Prediction, Forecasting, and Modeling session; HAB-OFS Product Coordinator, Karen Kavanaugh, presents current and future HAB-OFS improvements and expansion in the NOAA Special Session.

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### Many Thanks to our Partners and Data Providers

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

*This newsletter was written and designed by:*

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