



From Social Media to National Weather Service Products: Exploring New Outreach Tools for NOAA's Harmful Algal Bloom Operational Forecast System

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INTRODUCTION

Since it was transitioned from research to operations in 2004, NOAA's Harmful Algal Bloom Operational Forecast System (HAB-OFS) has provided year-round operational forecasts of the potential for *Karenia brevis* bloom formation at the coast, transport, intensification and associated respiratory irritation for the Gulf of Mexico region. Although the HAB-OFS has focused on maintaining high quality forecasts and refining the forecast system through research and development, the continued success of the HAB-OFS is also dependent on reaching its target audiences with useful information. The forecasts are communicated through two main products, the public conditions report and the technical HAB bulletin. These products are both intended as decision support tools: one for the general public and the other for a more technical audience that includes coastal resource managers, public health officials and researchers. After almost ten years in operations, it remains a challenge to sustain communication with current audiences, while attracting new interest. Beginning in August 2012, the HAB-OFS team launched a coordinated outreach strategy with the goal of increasing awareness of the HAB-OFS program and its products among potential HAB bulletin users and the general public.

METHODS

Goal
 To reach more people with important public health information by increasing the number of people that use HAB-OFS products:

- Increasing subscriptions to the bulletin.
- Increasing views of the public conditions report.

Metrics Used for Assessment

1. Increase bulletin subscribers by 20% over FY12.
2. Increase requests for bulletin subscription and other information by 25% over FY12.
3. Increase # of website visits per year by 25% over FY12.

Outreach Tools (see Table 1)

Table 1. Descriptions of the three outreach tools implemented by the HAB-OFS team in FY12 & FY13.

OUTREACH TOOL	DESCRIPTION/PURPOSE	UPDATE FREQUENCY	TARGET AUDIENCE	LAUNCH DATE
Newsletter	<ul style="list-style-type: none"> • Provides updates on HAB-OFS activities and new product developments. • Answers frequently asked questions and gives additional product background. 	Quarterly	Bulletin subscribers	FY12 Q4 8/8/12
NOAA HAB (Red Tide) Watch Facebook Page	<ul style="list-style-type: none"> • Disseminate public conditions reports. • Network with HAB-OFS partners. • Share news and inspire public interest in HABs. 	2 to 5x per week	Public	FY12 Q4 9/7/12
National Weather Service (NWS) Beach Hazards Statement	<ul style="list-style-type: none"> • Criteria-based product, disseminated by NOAA's NWS for a variety of coastal hazards. • Disseminated when "high" levels of respiratory irritation are forecasted by the NOAA HAB-OFS. 	As needed, daily	Public (only in Tampa Bay WFO)	FY13 Q2 2/4/13

Number of Visits to NOAA's HAB-OFS Website During Active Blooms in FY12 & FY13

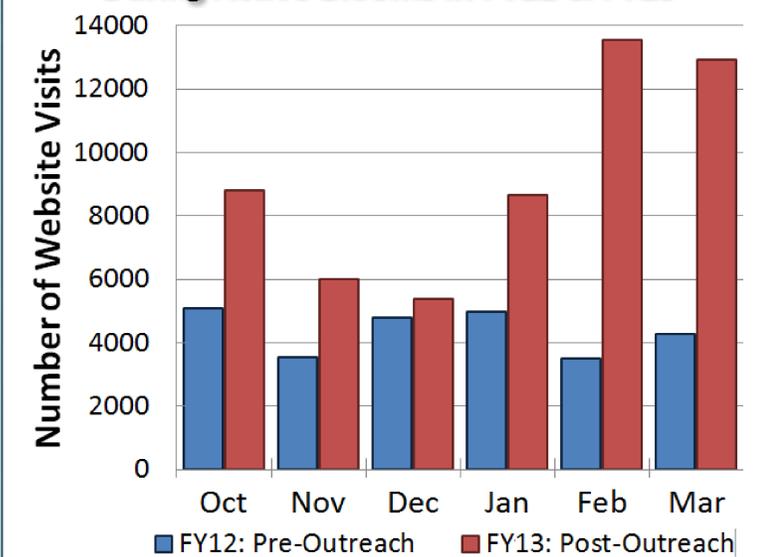


Figure 3. Number of visits to NOAA's HAB-OFS website during active blooms in FY12, before the outreach tools were implemented, and FY13, after outreach tools began to be used. The newsletter and Facebook page were launched on Aug. 8 and Sep. 7 of FY12, while the NWS Beach Hazards Statements were launched on Feb. 4 of FY13.

MORE ABOUT THE BEACH HAZARDS STATEMENT

Since June 2012, NOAA's National Weather Service (NWS) has been testing public alerts for coastal hazards such as rip currents. Following user meetings and coordination with HAB-OFS Florida partners, in February of 2013, the NWS Tampa Bay weather forecast office (WFO) began issuing alerts for HABs when the HAB-OFS forecasted a potential for high levels of respiratory irritation from Levy County south to Lee County. The alerts are issued to the public via weather.gov, NOAA Weather Radio and other NWS systems. The messages include HAB-OFS forecasts and links to more information from NOAA and HAB-OFS Florida partners.

Number of Subscription or Information Requests Received During Active Blooms in FY12 & FY13

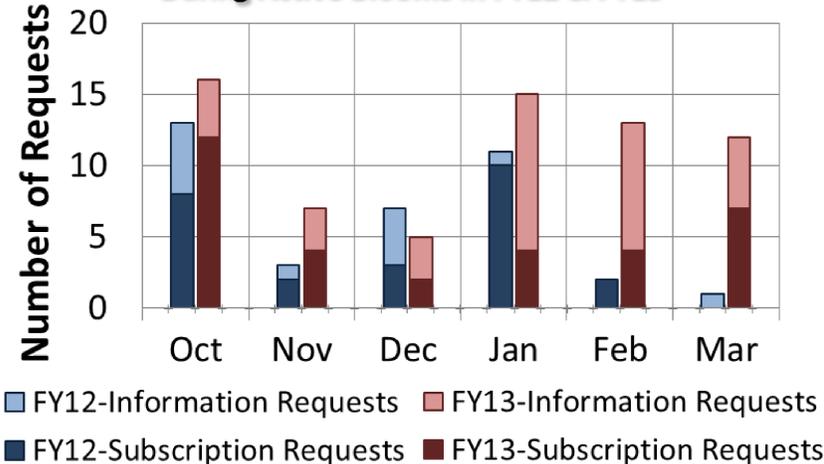


Figure 1. Number of subscription or general information requests received by the HAB-OFS team during active blooms in FY12, before the outreach tools were implemented, and FY13, after the outreach tools began to be used.

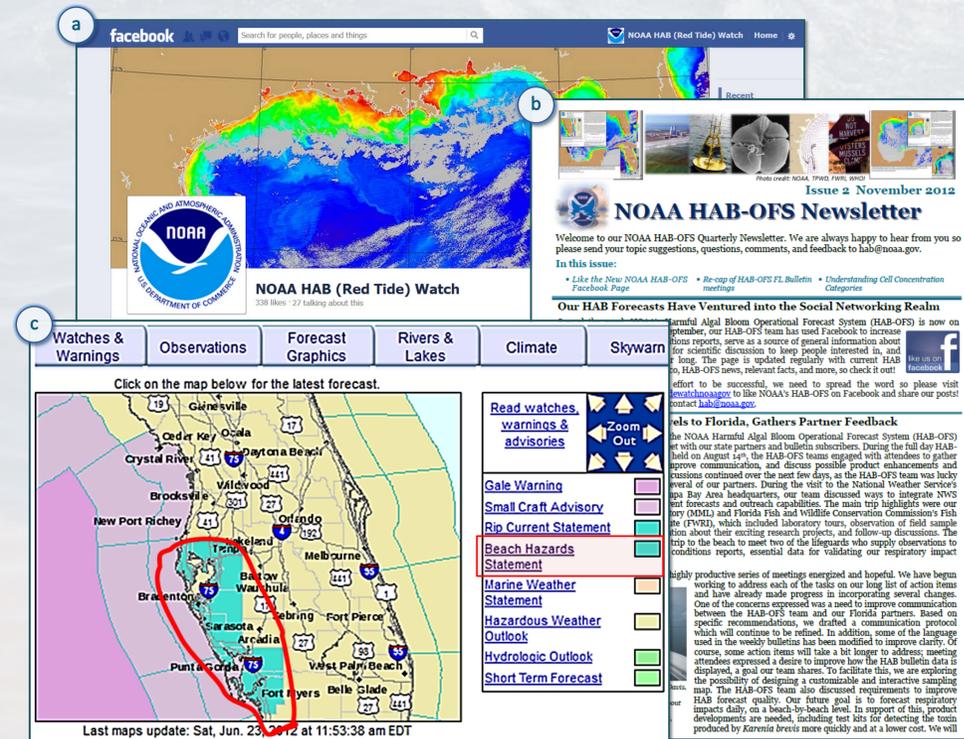


Figure 2. Examples of the three HAB-OFS outreach tools (clockwise from top):

- NOAA HAB (Red Tide) Watch Facebook Page: <https://www.facebook.com/Habredtidewatchnoaagov>
- NOAA HAB-OFS Newsletter: <http://tidesandcurrents.noaa.gov/hab/newsupdates.html>
- NOAA National Weather Service Beach Hazards Statement: <http://www.nws.noaa.gov/beachhazards>

Acknowledgements

Special thanks to NOAA's CO-OPS (especially HAB analysts), National Centers for Coastal Ocean Science and National Weather Service. The development and implementation of these outreach tools, especially the NWS Beach Hazards Statements, was dependent on cooperative efforts and extensive input from our external partners. Many thanks to the following agencies: Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Institute, Mote Marine Laboratory and Florida Department of Health.

RESULTS & DISCUSSION

Requests for HAB Information Increased Dramatically in FY13

- In FY13, inquiries from bulletin subscribers and the public increased by 182% over FY12 levels.
- Throughout FY13, there were more information requests than in FY12, indicating that outreach tools such as the HAB-OFS newsletter and the Facebook page may be successful methods for encouraging dialogue with the public.

Number of Visits to the HAB-OFS Website Increased, Especially While Beach Hazards Statements were Released

- In FY13, the number of visits to the HAB-OFS website increased by 29.7% over FY12 levels. Since there were blooms present in Florida and Texas in both FY12 and FY13 for similar amounts of time, this is unlikely to be due solely to bloom activity.
- During the release of the Beach Hazards Statements in February and March of FY13, website visits increased by 202-284% over FY12 levels.

Bulletin Subscription Requests Increased While Beach Hazards Statements were Released

- During the release of the Beach Hazards Statements in February and March of FY13, requests increased 100-600% over FY12 levels.
- However, bulletin subscription requests did not increase in FY13 overall. In fact, they were 16.3% lower than FY12 levels, indicating that the Facebook page alone did not lead to subscription requests.

CONCLUSION

The Outreach tools utilized in FY13 successfully increased visits to the HAB-OFS website and the use of the public conditions reports. In fact, the NOAA Facebook page has followers not only from the Gulf of Mexico region, but from around the world. Although these tools alone did not increase requests for bulletin subscription, they did encourage a dialogue among users, which continued throughout the year, even when a bloom was not present. This increased feedback is valuable for improving the HAB-OFS products. Additional methods for increasing bulletin subscription may be explored in the future. NOAA is currently working to address lessons learned from the first HAB Beach Hazards Statement test period, with the goal of expanding the statements beyond the Tampa Bay Weather Forecast Office (WFO) to WFO's in other parts of Florida and Texas.