



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

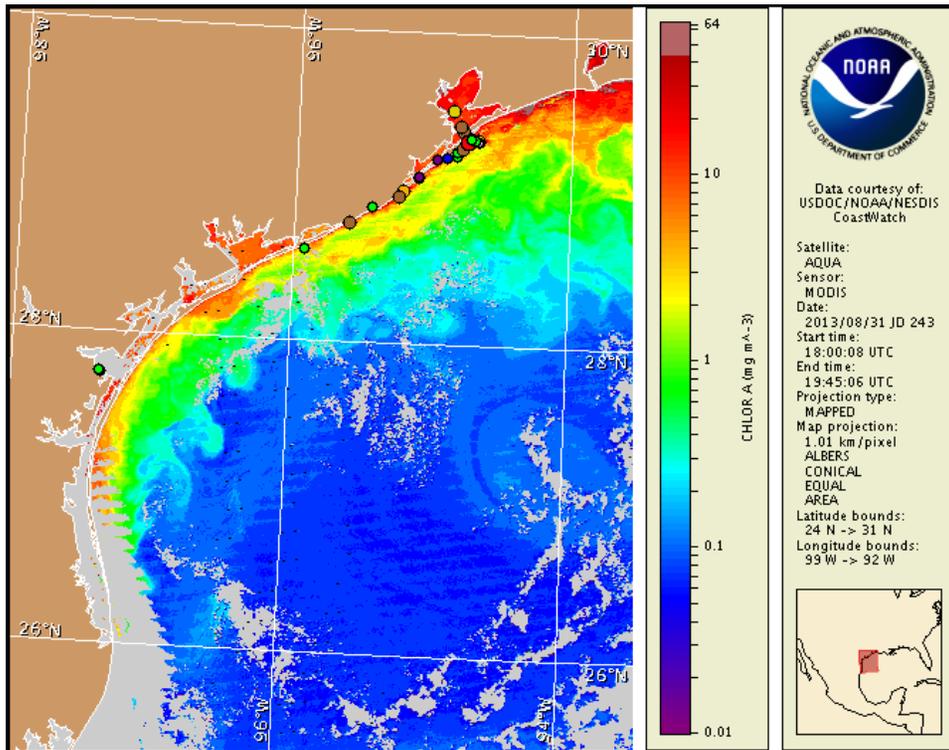
Tuesday, 03 September 2013

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, August 29, 2013



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from August 25 to 30: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

<http://www.tpwd.state.tx.us/landwater/water/enviroconcerns/hab/redtide/status.phtml>

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

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

Conditions Report

Not present to high concentrations of *Karenia brevis* (commonly known as Texas red tide) are present along the coast of Texas. *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 Tuesday, September 3 to Thursday, September 5 is listed below:

Region: Forecast (Duration)

Gulf Coast-Bolivar Peninsula: Moderate (Tu-Th)

Galveston Island region: High (Tu-Th)

Bay regions-Galveston Bay: Moderate (Tu-Th)

Gulf Coast-San Luis Pass to East Matagorda Bay Peninsula: Moderate (Tu-Th)

All Other Texas regions: None expected (Tu-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Health information, from the Texas Department of State Health Services and other agencies, is available at http://tidesandcurrents.noaa.gov/hab/hab_health_info.html. No respiratory irritation or dead fish were reported over the past few days.

There are currently patches of a bloom of the algae *Aureoumbra lagunensis* in the upper Laguna Madre region. This algae species does not produce the respiratory irritation associated with the Texas red tide caused by *Karenia brevis*, but it may cause discolored water and fish kills.

Analysis

A harmful algal bloom of *Karenia brevis* has been identified in the Bolivar Peninsula, Galveston, and San Luis Pass to East Matagorda Bay regions of Texas. In the Galveston Island, Galveston Bay, and Bolivar Peninsula regions, *K. brevis* concentrations range between not present and 'high' with the highest concentrations found in the northeast end of the Galveston Yacht Basin (TPWD, 8/28-29). In the San Luis Pass to East Matagorda Bay region, samples indicate 'low a' *K. brevis* concentrations at Sargent Beach (TPWD, 8/29), and a recent sample collected offshore of the Surfside Beach area indicates 'low a' *K. brevis* concentrations near where TPWD identified 'medium' concentrations earlier last week (8/27-30). Samples collected along the gulf coast of the East Matagorda Bay Peninsula region and in the Corpus Christi Bay region indicate *K. brevis* is not present (TPWD, 8/29-30).

Recent MODIS Aqua imagery from 8/31 (shown left) is partially obscured by clouds along- and offshore from the Padre Island region to south of the Rio Grande. Patches of elevated to very high chlorophyll concentrations (2 to >20 $\mu\text{g/L}$) remain visible along-shore extending up to 35km offshore from the Sabine Pass to Mustang Island regions, with very high chlorophyll (>20 $\mu\text{g/L}$) visible in patches along the coast northeast of the Bolivar Peninsula region and also in small patches stretching along Galveston Island to south of the Surfside Beach region. Elevated chlorophyll is not necessarily indicative of the presence of *K. brevis* and could also be due to the resuspension of benthic chlorophyll and sediments along the coast. In situ sampling is necessary to confirm the presence of *K.*

brevis.

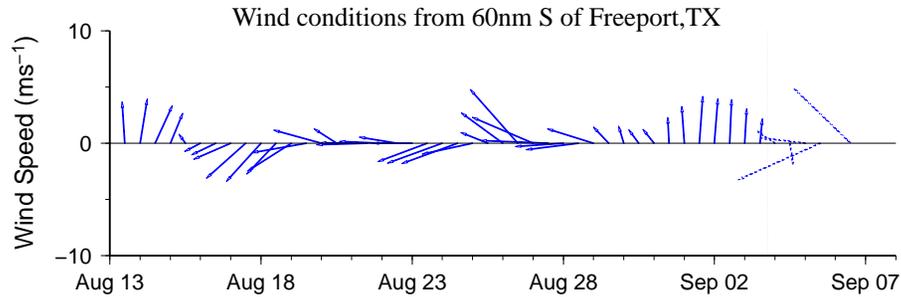
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 30 km north from the Bolivar Roads Pass region and 20 km north from the Sargent Beach region, with a potential transport of 30 km north from the Port Aransas region, from August 31 to September 6.

Kavanaugh, Derner

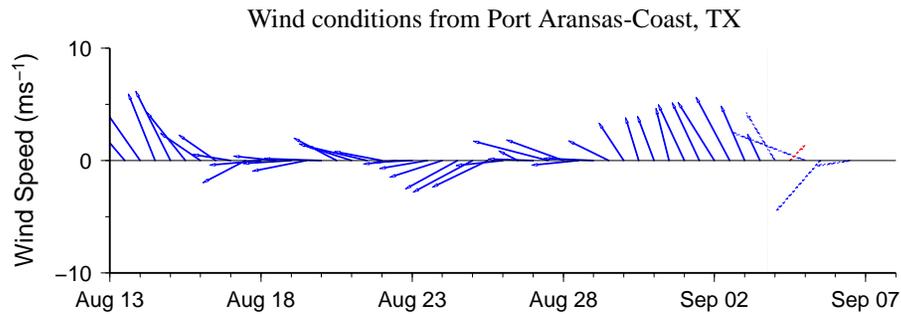
Wind Analysis

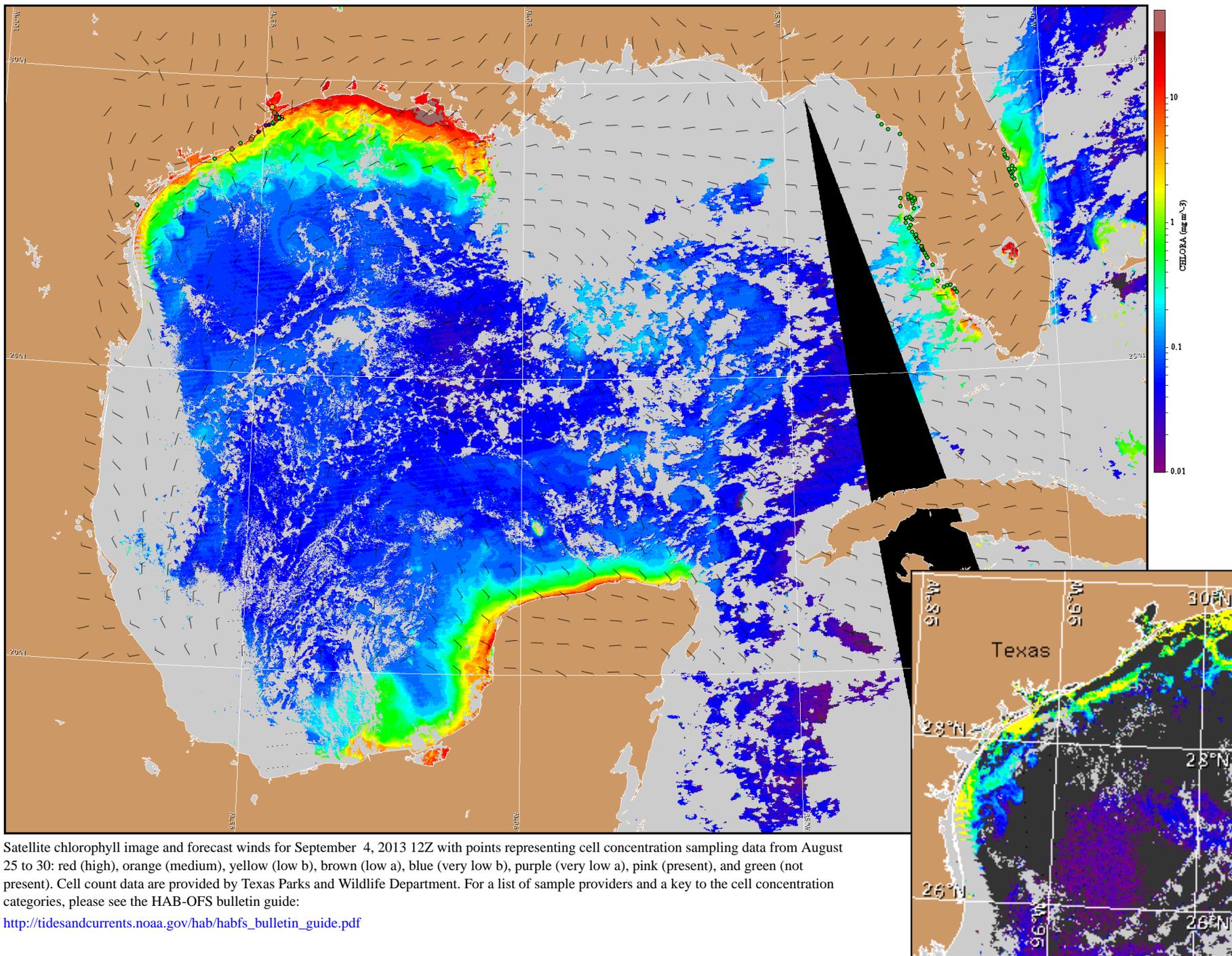
Galveston Region: Northwest winds (5kn, 3m/s) today becoming southeast winds in the afternoon. South winds (5-10kn, 3-5m/s) tonight becoming southwest winds after midnight. North winds (5-10kn) Wednesday becoming east to southeast winds (5-15kn, 3-8m/s) Wednesday afternoon through Thursday.

Port Aransas: Northwest winds (5kn, 3m/s) today becoming southeast winds (5-10kn, 3-5m/s) this afternoon through tonight, then south winds after midnight. Northwest winds (5kn) Wednesday becoming east winds (5-15kn, 3-8m/s) Wednesday afternoon through Thursday.



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).





Satellite chlorophyll image and forecast winds for September 4, 2013 12Z with points representing cell concentration sampling data from August 25 to 30: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).