



# Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

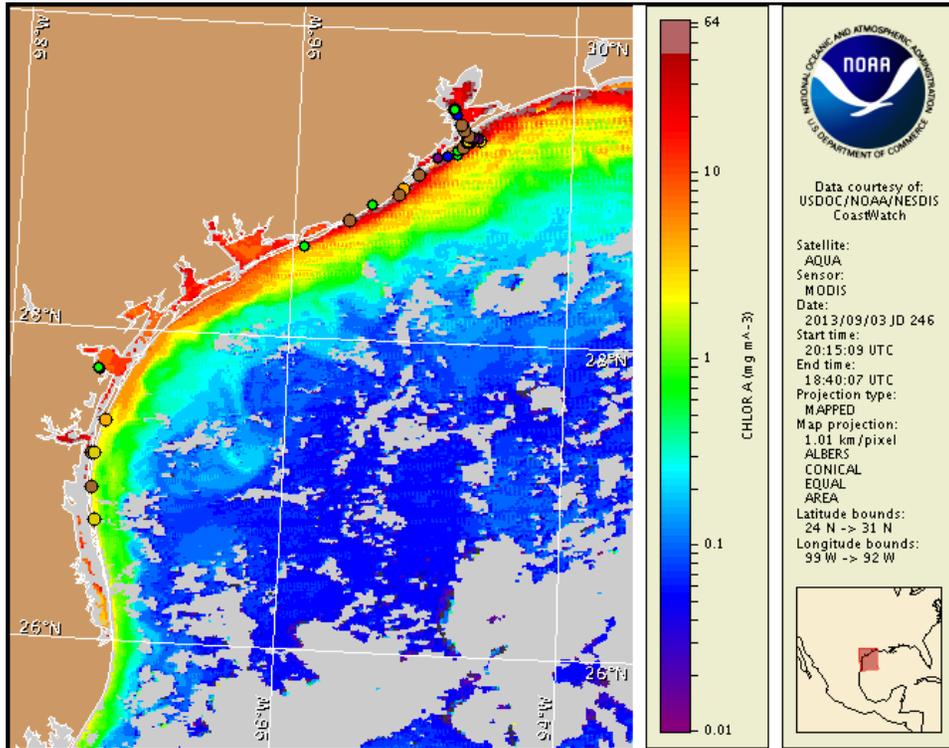
Thursday, 05 September 2013

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Tuesday, September 3, 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 26 to September 4: 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](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 Thursday, September 5 to Monday, September 9 is listed below:

**Region:** Forecast (Duration)

**Bolivar Peninsula region:** Low (Th-M)

**Galveston Island region:** Moderate (Th-M)

**Bay region-Galveston Bay:** Low (Th-M)

**San Luis Pass to East Matagorda Bay Peninsula region:** Low (Th-M)

**Padre Island National Seashore region:** Moderate (Th-M)

**All Other Texas 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 Texas Department of State Health Services and other agencies, is available at [http://tidesandcurrents.noaa.gov/hab/hab\\_health\\_info.html](http://tidesandcurrents.noaa.gov/hab/hab_health_info.html). No respiratory irritation or dead fish were reported over the past few days. Discolored water was reported in the Galveston Ship Channel and Galveston Yacht Basin regions.

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, San Luis Pass to East Matagorda Bay and Padre Island National Seashore regions of Texas. In the Galveston Island, Galveston Bay, and Bolivar Peninsula regions, recent samples indicate that *K. brevis* concentrations range between not present and 'low b'. The 'low b' concentrations were found in the northeast end of the Galveston Yacht Basin (TPWD, 9/2-3), where TPWD identified 'high' concentrations last week (8/29). Discolored water was noted in the samples collected from the Galveston Ship Channel and in the Galveston Yacht Basin (TPWD, 9/3). In the Padre Island National Seashore (PINS) region, *K. brevis* concentrations have increased over the past few days and now range between not present and 'medium', with the highest concentrations found at the PINS 0 mile marker (TPWD, 8/30-9/4).

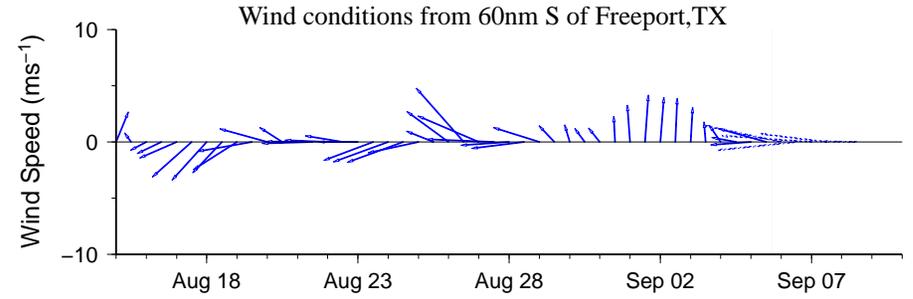
In recent MODIS Aqua imagery from 9/3 (shown left), high to very high chlorophyll (10 to >20  $\mu\text{g/L}$ ) remains visible in patches along the coast northeast of the Bolivar Peninsula region and also in small patches stretching along Galveston Island to the Matagorda Island region. Patches of elevated chlorophyll (2 to 10  $\mu\text{g/L}$ ) are also visible alongshore extending from south of the Matagorda Island region to south of the Rio Grande. 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 that the maximum bloom transport from coastal sample locations may be negligible (<10km) from the Bolivar Roads Pass region, 15 km south from the Sargent Beach region, 15 km south from the PINS 0 mile marker, and negligible (<10km) from the PINS 45 mile marker, with a potential transport of 30 km south from the Port Aransas region, from September 3-8.

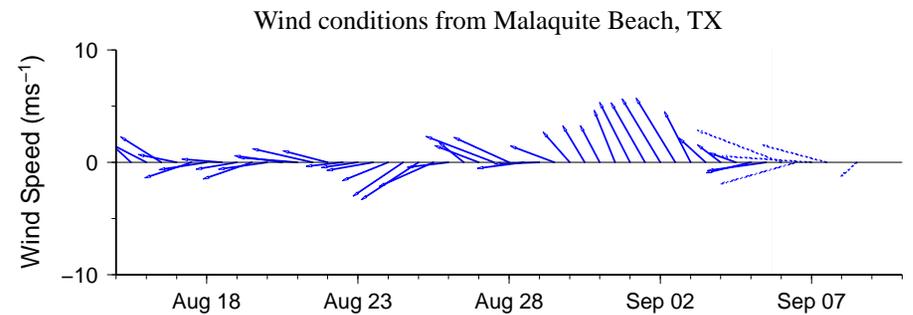
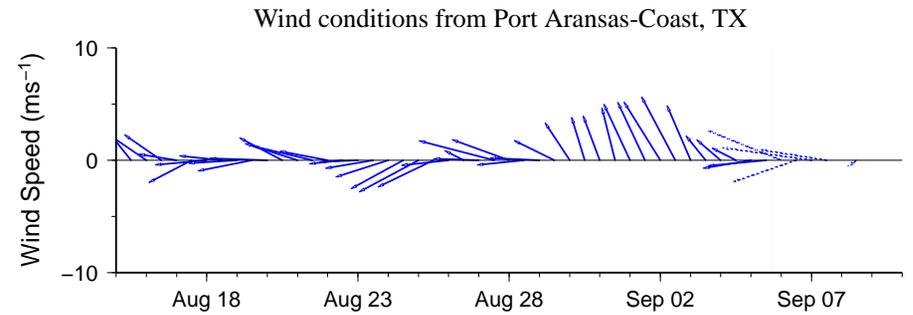
Kavanaugh, Derner

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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).

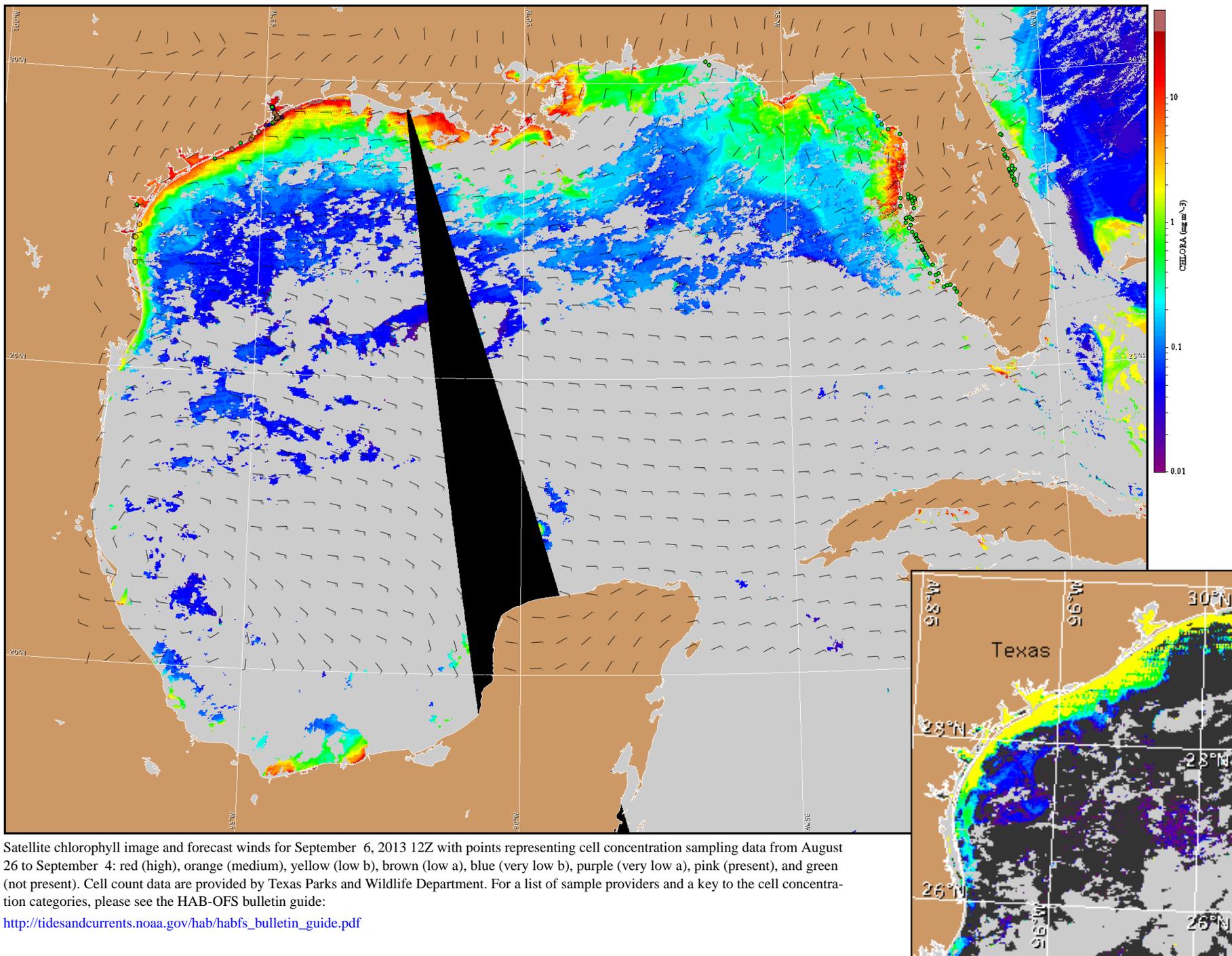


## Wind Analysis

**Galveston Region:** East winds (5-15kn, 3-8m/s) today through Friday becoming south-east winds (5-10kn, 3-5m/s) Friday night through Saturday night. East winds (5-10kn) Sunday becoming southeast winds (10-15kn) Sunday night through Monday.

**Port Aransas:** Northeast winds (5-10kn) today becoming east winds (5-15kn) this afternoon through Saturday. Southeast to east winds (10-15kn, 5-8m/s) Saturday night through Monday night.

**Padre Island National Seashore Region:** East winds (10-15kn) today through Friday. Southeast winds (10kn, 5m/s) Saturday through Monday.



Satellite chlorophyll image and forecast winds for September 6, 2013 12Z with points representing cell concentration sampling data from August 26 to September 4: 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).