



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

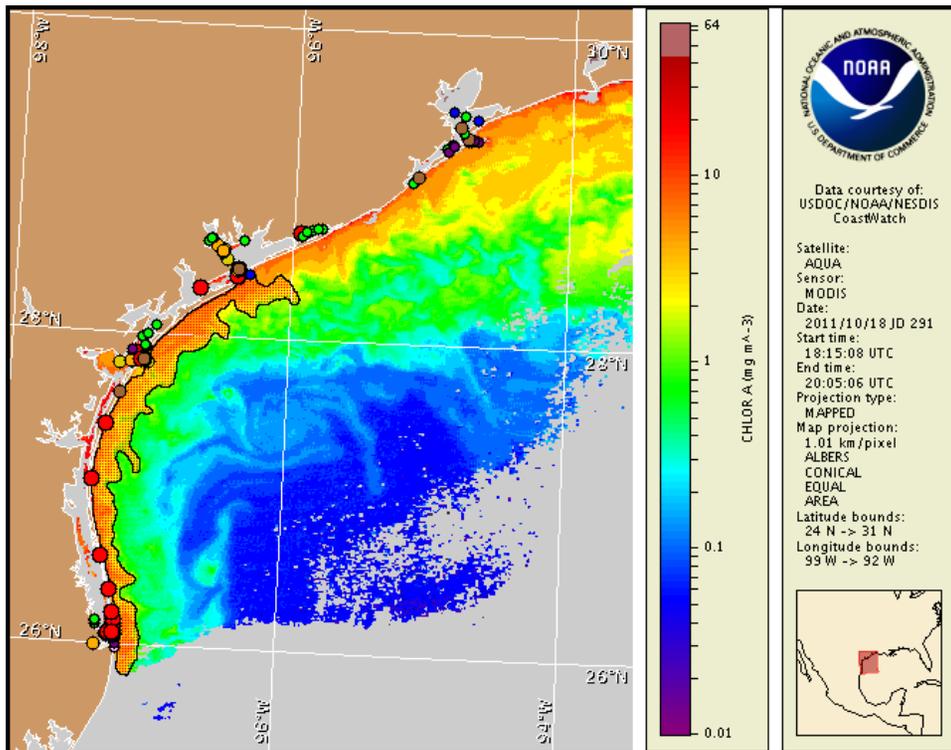
Thursday, 20 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, October 17, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 10 to 20 shown as red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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

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

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport region, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Port Aransas region and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area. Patchy high impacts are possible along the Matagorda Peninsula, in the Port Aransas region, alongshore Padre Island National Seashore, alongshore South Padre Island, and in the lower Laguna Madre area today through Sunday and in the Brownsville Ship Channel area on Friday. Patchy moderate impacts are possible in the Galveston Island region today through Sunday, and in the Brownsville Ship Channel area today and Saturday through Sunday. No impacts are expected elsewhere alongshore Texas today through Sunday, October 23. Over the past few days, reports of dead fish have been received from the Packery Channel region. Respiratory impacts have been reported along the Padre Island National Seashore and South Padre Island, but have decreased in the Port Aransas area.

Analysis

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport region, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Port Aransas region and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area. Strong onshore winds over the next several days will increase the potential for impacts at the coast.

In Matagorda Bay, samples indicate that *Karenia brevis* continues to range between 'not present' and 'medium' concentrations (10/17; TPWD). A sample collected from the mouth of Powderhorn Lake indicates that *K. brevis* has increased to 'low b' from 'very low b' concentrations, while a sample collected from the Port O'Connor Little Jetties area indicates *K. brevis* seems to have decreased to 'low a' from 'high' concentrations (10/11-17; TPWD). Six samples collected from East Matagorda Bay, indicate that *K. brevis* is 'not present' (10/17-18; TPWD). The cause of dead fish, discolored water, and respiratory irritation reported from East Matagorda Bay is currently being investigated (10/18; TPWD).

In the coastal Port Aransas area, eight samples collected from the UTMSI marina and pier indicate that *K. brevis* has decreased from a range between 'low b' and 'high' concentrations (10/10-14; TPWD) to a range between 'very low a' and 'low b' concentrations (10/14-18; TPWD). Further inside Aransas Pass, two samples collected from the Port Aransas Marina indicate *K. brevis* remains at 'high' concentrations (10/14-17; TPWD). One sample collected from the Lydia Ann Channel and four samples collected from Aransas Bay indicate that *K. brevis* has decreased to 'not present' concentrations (10/14; TPWD). A 'very low a' concentration was identified from the Aransas Channel ICWW (10/14; TPWD). Further south, a sample from the Packery Channel Boat Launch indicates that 'low a' concentrations of *K. brevis* remain (10/17; TPWD), and dead fish have been reported from the area. North winds have decreased the presence of respiratory irritation in the Port Aransas and Mustang Island State Park areas.

In the Padre Island National Seashore region, three samples collected from the PINS 0

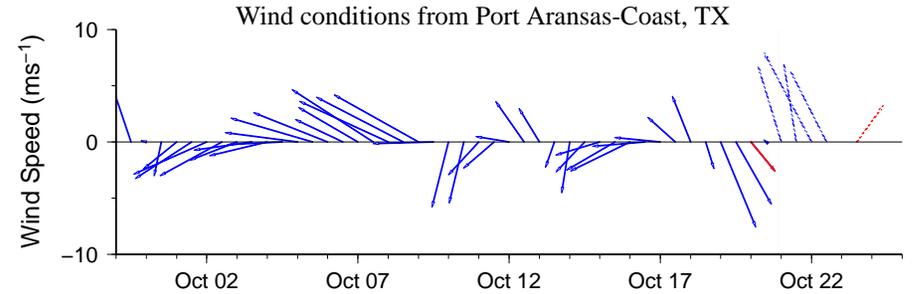
mile marker to the 60 mile marker indicate that *K. brevis* has increased to 'high' concentrations (10/17; TPWD). Recent reports of respiratory irritation and dead fish have been received from the region (10/17; TPWD). Reports of respiratory irritation have been received from along the entire coast of South Padre Island (10/19; TPWD). Eight samples collected along the coast from 10 miles north of Beach Access 6 to the Radisson Hotel ranged from 'medium' to 'high' concentrations of *K. brevis* (10/15-19; TPWD). Four samples collected from the UTPA Coastal Studies Lab ranged between 'low b' and 'high' concentrations (10/16-20; TPWD). Two samples collected from the Boca Chica south jetty area indicate 'low a' and 'medium' concentrations, respectively (10/16-18; TPWD), while five samples collected from the gulf-side of the Brazos Santiago Pass indicate that *K. brevis* has increased from 'not present' to 'high' concentrations over the past few days (10/15-20; TPWD). Further south, three coastal samples, collected from the Boca Chica beach region, ranged between 'not present' and 'very low a' concentrations of *K. brevis* (10/16-18; TPWD). Within Brazos Santiago Pass, three samples indicate 'medium' to 'high' concentrations of *K. brevis* (10/18-20; TPWD). Samples from the lower Laguna Madre on the bayside of South Padre Island and in the Port Isabel area, indicate *K. brevis* concentrations range between 'medium' and 'high' (10/18-20; TPWD). Within the Brownsville Ship Channel, three samples from the San Martin Boat Ramp indicate that over the past few days *K. brevis* concentrations have increased to 'medium' from 'very low a' concentrations (10/15-18; TPWD).

Recent MODIS imagery (10/18, shown page 1) is partially obscured by clouds in the Sabine Pass area. Over the past few days, chlorophyll levels seem to have decreased in intensity. However, a band of elevated to high chlorophyll (2-19 $\mu\text{g/L}$) is still visible along- and offshore the coast from the Sabine Pass region to South Padre Island, with patches of high chlorophyll especially along- and offshore the Galveston, Matagorda, and Padre Island regions near where the harmful algal bloom has been identified. Although elevated chlorophyll may contain *K. brevis*, it may also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of the blooms from satellite imagery alone.

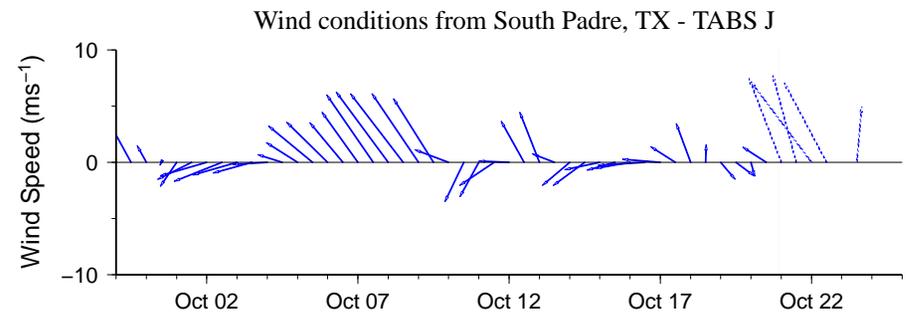
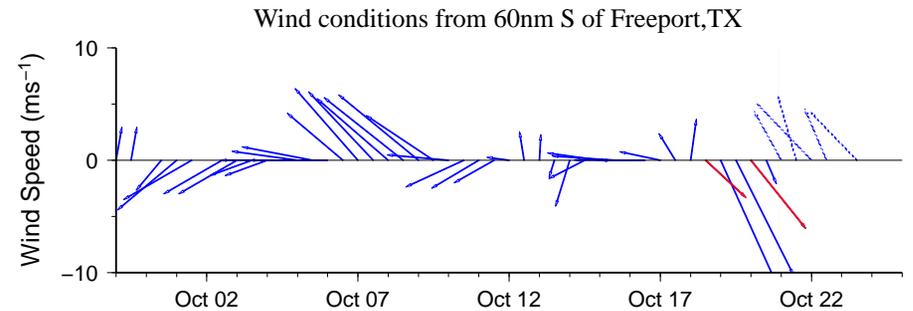
Forecast models indicate a maximum bloom transport from coastal sample locations of 40 km north from the Galveston/Freeport area, 80 km north from the Matagorda Peninsula region, 50 km north of the Port Aransas region, 20 km north of the Padre Island National Seashore region, and a negligible transport (<10 km) from the Brazos Santiago Pass region from October 18 to 23.

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).

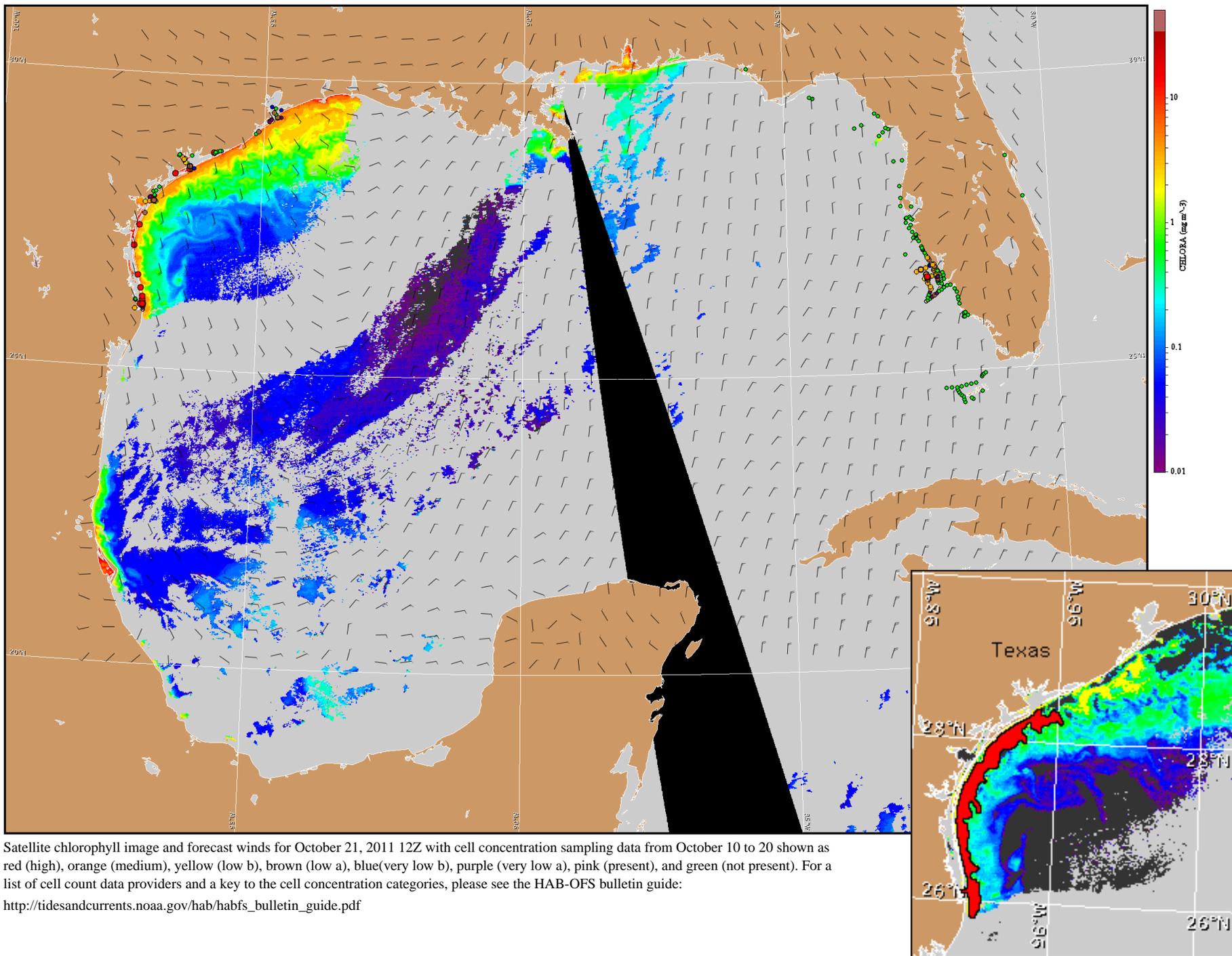


Wind Analysis

Galveston and Freeport area: Northeast to southeast winds (5-10 kn, 3-5 m/s) today becoming south winds (10-15 kn, 5-8 m/s) tonight. Southeast winds (10-20 kn, 5-10 m/s) Friday becoming south winds (10-15 kn) after midnight. Southeast winds (10-15 kn) Saturday becoming south winds (5-15 kn) Saturday night through Sunday night.

Port Aransas: Southeast winds (5-20 kn, 3-10 m/s) today through Friday night. South winds (10-20 kn, 5-10 m/s) Saturday through Sunday.

Padre Island: Southeast winds (10-20 kn, 5-10 m/s) today through Friday night. South winds (15 kn, 8 m/s) Saturday through Sunday.



Satellite chlorophyll image and forecast winds for October 21, 2011 12Z with cell concentration sampling data from October 10 to 20 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data 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).