



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

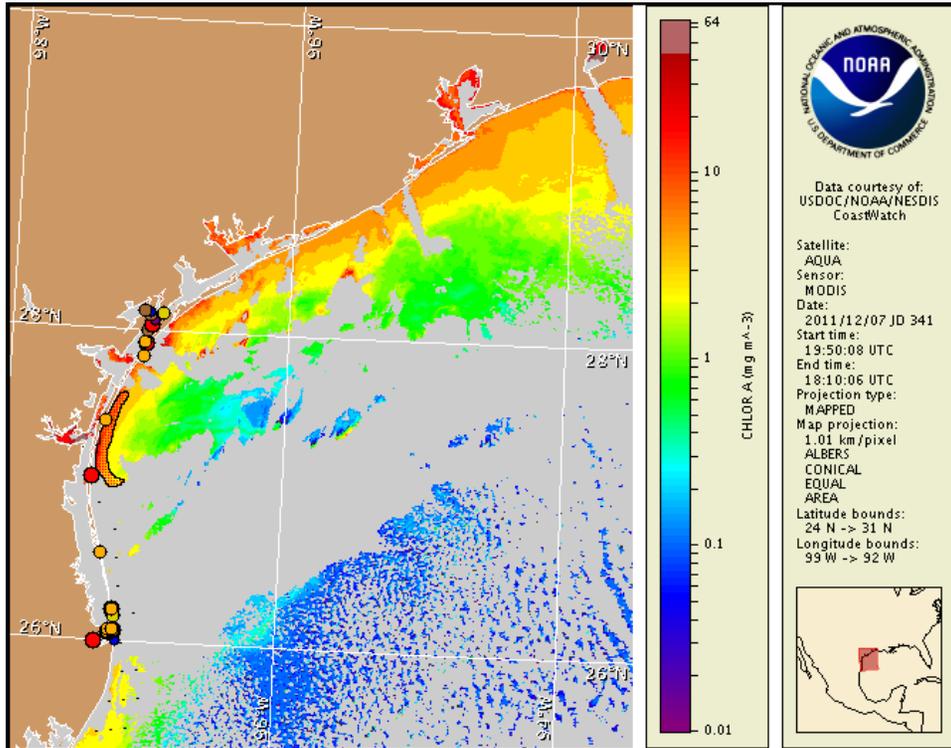
Thursday, 08 December 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, December 5, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from November 28 to December 6 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/habfs_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 is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy high impacts are expected today through Sunday in the Port Aransas/Corpus Christi region, alongshore the Padre Island National Seashore and South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, and alongshore the Matagorda Peninsula and within Matagorda Bay on November 15. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Sunday, December 11. Discolored water has been reported from the Galveston Bay and South Padre Island regions.

Analysis

A harmful algal bloom is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, and alongshore the Matagorda Peninsula and within Matagorda Bay on November 15.

No new samples have been received from the Galveston, Matagorda, or Aransas/Corpus Christi Bay regions. The latest samples indicated 'low a' to 'low b' *Karenia brevis* concentrations in northwest Galveston Bay (11/17; TPWD), 'low b' to 'high' concentrations within Matagorda Bay (11/1-7; TPWD), 'very low a' to 'high' concentrations within Aransas Bay (11/28; TPWD), and 'medium' concentrations near the coast within Aransas Pass (11/28-30; TPWD). Discolored water has been reported in the Texas City dike area of the Galveston Bay region.

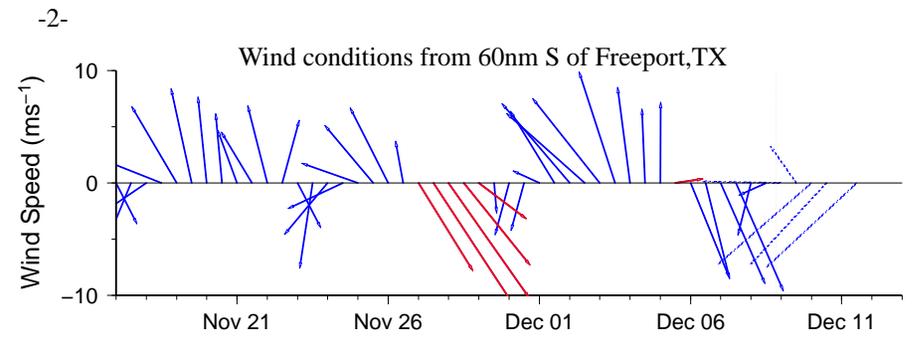
Along the Padre Island National Seashore, the last samples received indicated 'medium' to 'high' concentrations of *K. brevis* (11/28; TPWD). Samples collected on Monday and Tuesday identified 'low a' to 'medium' *K. brevis* concentrations throughout the South Padre Island region (12/5-6; TPWD). Alongshore South Padre Island (Gulf), six samples collected from Beach Access 6 to the UTPA Coastal Studies Lab indicate that 'low a' to 'medium' concentrations remain at the coast (12/5-6; TPWD). Samples collected from within Brazos Santiago Pass and at the nearby Isla Blanca boat ramp, indicate that *K. brevis* concentrations continue to fluctuate with 'low a' concentrations identified at each site on Monday, and 'medium' concentrations collected at each site on Tuesday (12/5-6; TPWD). Concentrations within the lower Laguna Madre reveal that *K. brevis* concentrations continue to fluctuate at both the west and east ends of the Queen Isabella Causeway and near Port Isabel, within Canal C at Long Island Village; concentrations ranged between 'low a' and 'medium' from 12/5-6 (TPWD). The most recent sample collected within the Brownsville Ship Channel indicated 'high' concentrations at the San Martin boat ramp (12/2; TPWD). Discolored water has been reported alongshore the Gulf Coast of South Padre Island (12/7; TPWD).

Recent imagery along the Texas coastline is partially obscured by clouds, limiting analysis. The feature of elevated to very high chlorophyll (7 to >20 µg/L) identified late last

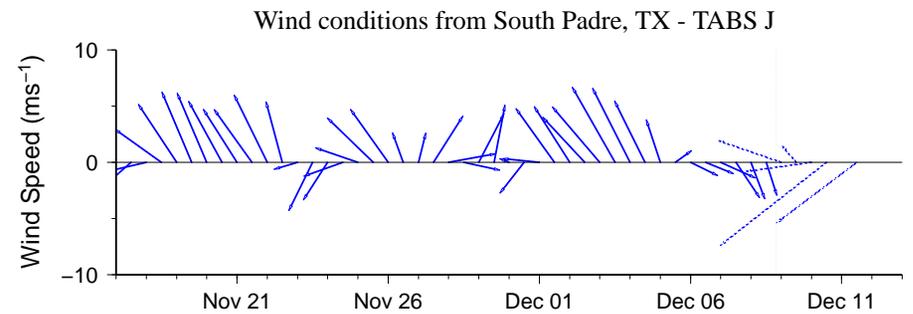
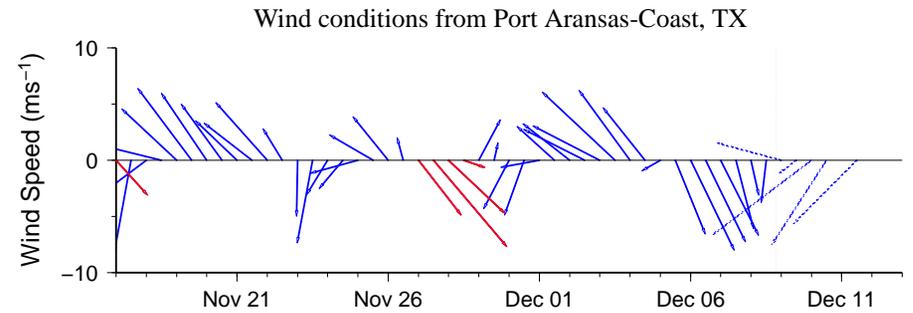
week remains visible in imagery (MODIS 12/7; page 1) stretching along- and offshore from the Port Aransas region to approximately 50km north of Port Mansfield. It is possible this feature extends further south; however, due to cloud cover, it is not possible to determine the southernmost extent of this feature or provide further analysis of the Padre Island National Seashore and South Padre Island region at this time. Elevated chlorophyll (3 to $<10 \mu\text{g/L}$) is also visible along- and offshore from Sabine Pass to the Matagorda Peninsula region, and a small patch of high chlorophyll (10 to $13 \mu\text{g/L}$) is visible near the mouth of Bolivar Roads Pass. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of $<10\text{km}$ south from the Galveston Bay and Matagorda Peninsula regions, 15km south from Port Aransas, 20km south along the Padre Island National Seashore region, and 15km south from Brazos Santiago Pass from December 7-11. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Derner, Kavanaugh



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).

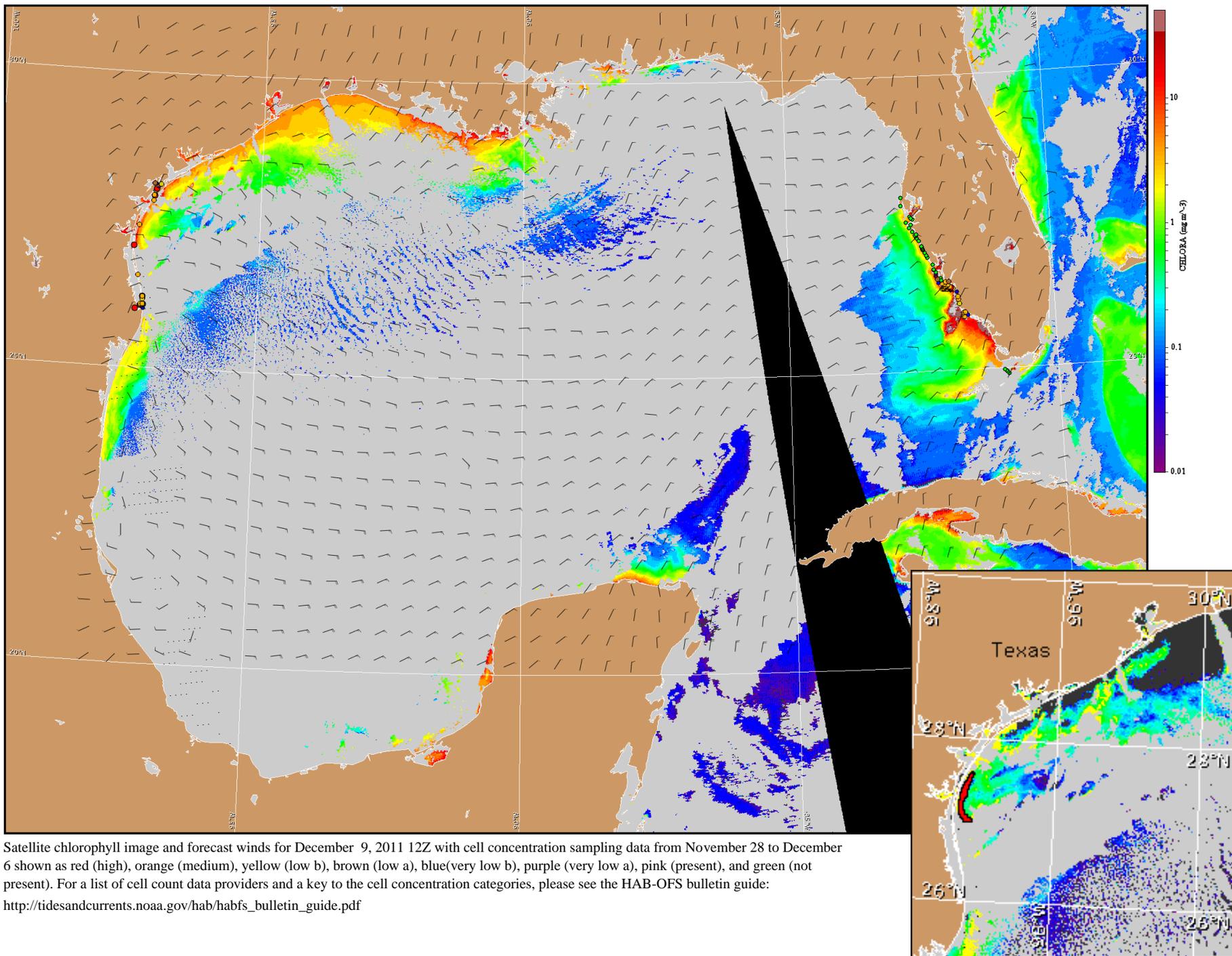


Wind Analysis

Galveston/Freeport: East winds (5-15kn, 3-8m/s) today and tonight. Northeast winds (5-20kn, 3-10m/s) Friday and Saturday. East winds (10-15kn, 5-8m/s) Sunday.

Port Aransas: East winds (10-15kn) today becoming southeast (10-15kn) tonight. East winds (10-15kn) Friday becoming northeast (15-20kn, 8-10m/s) Friday afternoon through Sunday. East winds (15-20kn) Sunday night.

South Padre: East winds (10kn, 5m/s) today becoming southeast (10kn) tonight. North winds (10-15kn) Friday becoming northeast (15-25kn, 8-13m/s) Friday afternoon through Saturday. East winds (15kn, 8m/s) Sunday.



Satellite chlorophyll image and forecast winds for December 9, 2011 12Z with cell concentration sampling data from November 28 to December 6 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/habfs_bulletin_guide.pdf

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