Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

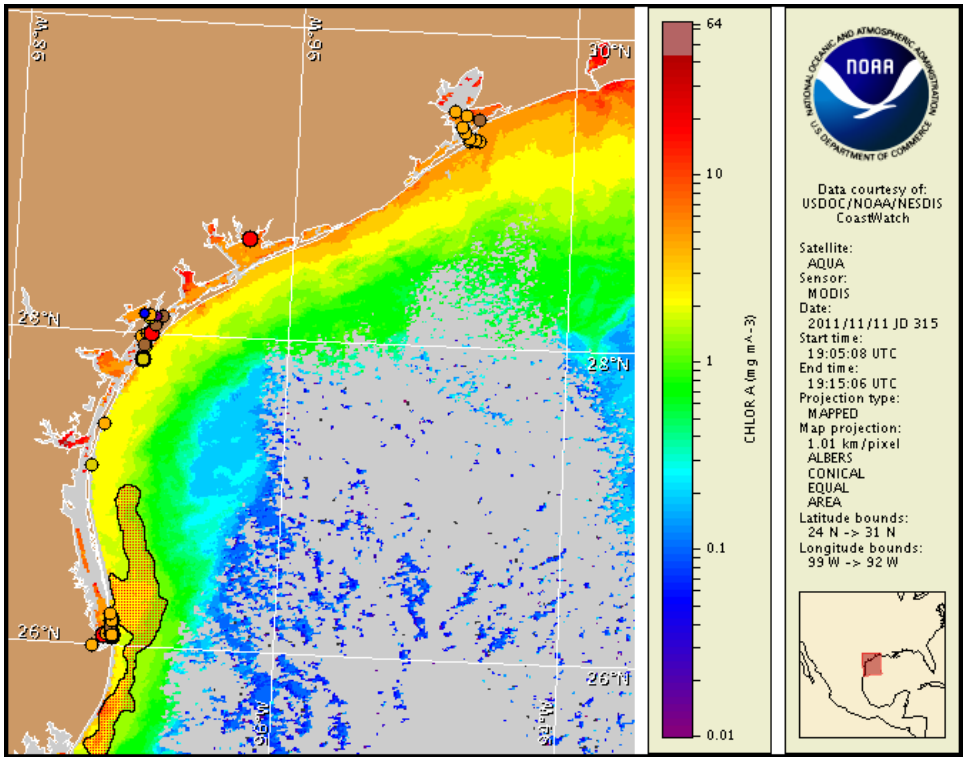
Tuesday, 15 November 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, November 10, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from November 4 to 13 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 Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area 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 today through Wednesday in the Matagorda Bay and Port Aransas/Corpus Christi regions, alongshore South Padre Island, and within the lower Laguna Madre, and on Monday in the Galveston/Freeport area and alongshore Padre Island National Seashore. Patchy moderate impacts are possible today through Wednesday within the Brownsville Ship Channel and on Tuesday and Wednesday in the Galveston/Freeport area and alongshore Padre Island National Seashore. No additional impacts are expected at the coast in Texas today through Wednesday, November 16. Discolored water and dead fish are present in the Matagorda Bay and Port Aransas/Corpus Christi regions.

Analysis

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area 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. Slight respiratory irritation continues to be reported along the Texas coast (11/10; TPWD).

No new samples have been received from the Galveston or Matagorda Bay regions. The most recent samples from these areas indicated *Karenia brevis* concentrations ranging between 'low a' and 'medium' concentrations in the Galveston region, while one recent sample from the Matagorda Bay indicated 'high' concentrations (11/7; TPWD). Observations from a recent overflight identified heavy streaking present throughout Matagorda Bay, Tres Palacios Bay, Carancahua Bay, Keller Bay, Cox Bay, and Lavaca Bay. Further south, heavy streaking was also observed in Espiritu Santo, Hynes, and San Antonio bays. Discolored water was also reported from Guadalupe Bay. Several observations of probable dead fish were also reported from San Antonio Bay (11/14; TPWD).

In the Aransas/Corpus Christi region, several samples collected from the Gulf region of Aransas Pass indicate that *K. brevis* continues to range between 'low b' and 'medium' concentrations at the UTMSI pier and at depth, and has returned to 'high' concentrations at the UTMSI marina (11/10-13; TPWD). The recent overflight reported the presence of discolored water and potential dead fish in the Aransas Bay area, with the heaviest streaking observed in the southern area of Aransas Bay between the cove, Mud Island, and Lydia Ann Channel. Discolored water and potential dead fish were also observed in the Corpus Christi Bay area, with the heaviest streaking between Ward Island, Shamrock Island and the bay side of Mustang Island State Park (11/14; TPWD).

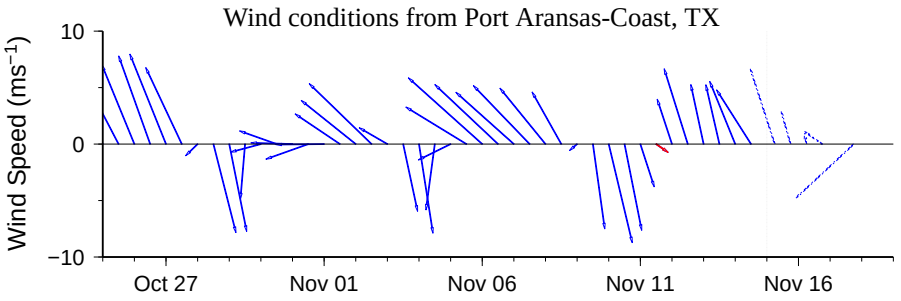
No new samples have been received from the Padre Island National Seashore region. The most recent samples indicated *K. brevis* concentrations ranging between 'low b' and 'medium' (11/7; TPWD). In the South Padre Island region, a sample collected along the Gulf coast from the UTPA Coastal Studies Lab and a sample collected from the Gulf-side of Brazos Santiago Pass both indicate that *K. brevis* concentrations remain at 'medium'

concentrations (11/10; TPWD). Within the lower Laguna Madre, a 'low a' sample collected from the Isla Blanca boat ramp indicates that *K. brevis* concentrations continue to decrease (11/10; TPWD).

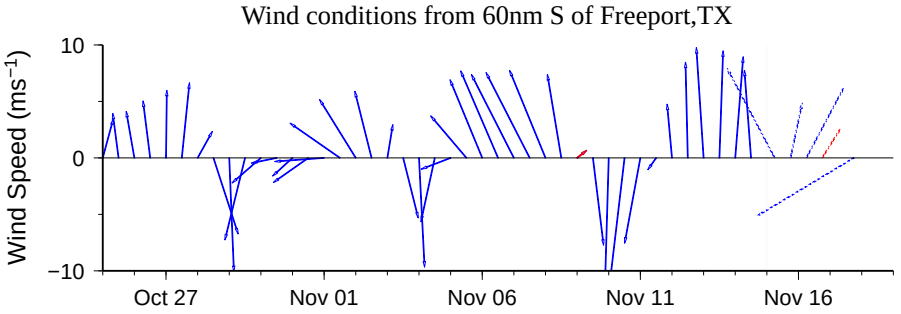
Recent MODIS imagery from 11/11 (page 1), shows a band of elevated chlorophyll (2 to <10μg/L) stretching along- and offshore from Sabine Pass to south of the Rio Grande, with patches of high chlorophyll (10-13μg/L) visible stretching slightly south of Sabine Pass and approximately 50 km south of the Rio Grande region. Several small patches of elevated chlorophyll (3-9μg/L) are also visible stretching along the coast of Matagorda Island from Pass Cavallo to approximately 40 km south and along the coast from Port Aransas to approximately 30 km south in the Mustang Island area. These patches may correspond with patches of the bloom reported from recent overflight observations as stretching from Pass Cavallo south to the northern border of Padre Island National Seashore, especially along Matagorda Island (11/14; TPWD). 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.

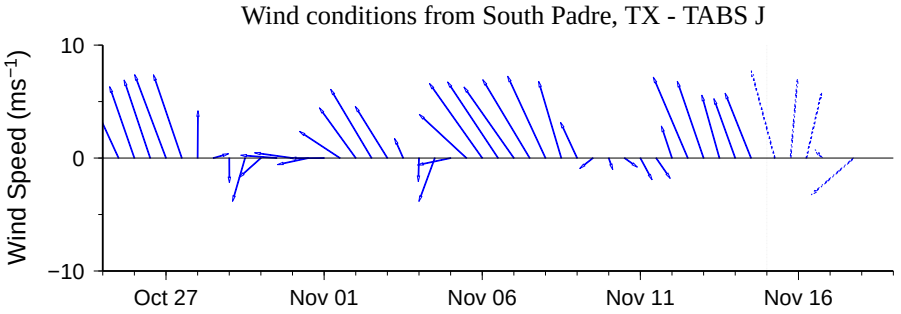
Forecast models indicate a maximum bloom transport from coastal sample locations of <10 km from the Galveston Bay region, 10 km south from the Matagorda Peninsula region, 15 km north from the Port Aransas region, 50 km north along the Padre Island National Seashore, and 70 km north from Brazos Santiago Pass from November 11 to 16. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Kavanaugh, Derner



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).



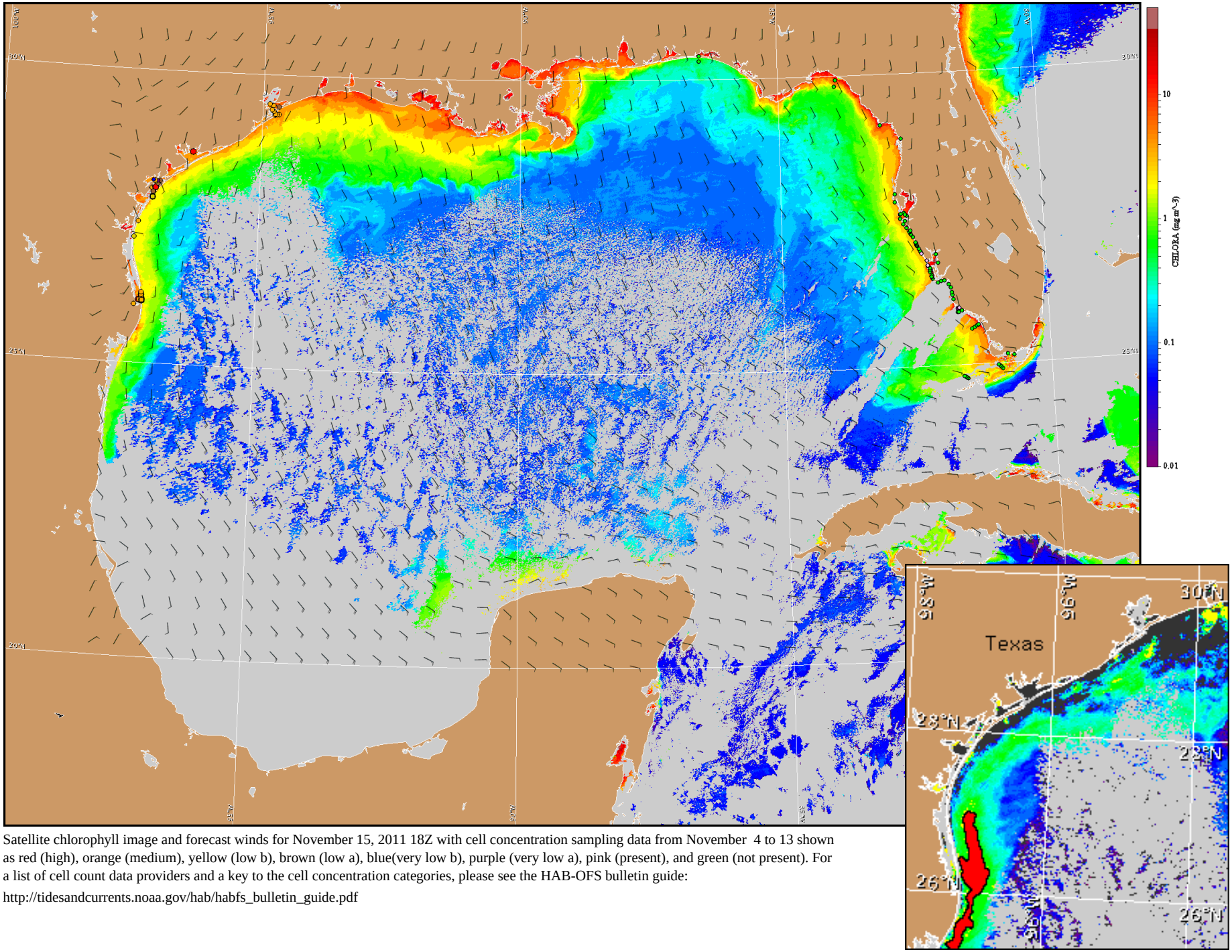


Wind Analysis

Galveston/Freeport: Southeast winds (15-20kn, 8-10m/s) tonight. South winds (15kn, 8m/s) Tuesday becoming southwest (5-10kn, 3-5m/s) Tuesday night. West winds (5-10kn) Wednesday becoming southwest Wednesday afternoon. South winds (10-15kn, 5-8m/s) Wednesday night becoming northeast (15-20kn) after midnight.

Port Aransas: South winds (15-20kn) tonight through Tuesday shifting west (5-15kn, 3-8m/s) Tuesday afternoon. Southwest winds (5kn, 3m/s) Wednesday shifting south (5-10kn) Wednesday afternoon through evening, becoming northeast (15-20kn) after midnight.

South Padre: South winds (15-20kn) tonight through Tuesday becoming southwest (10kn, 5m/s) Tuesday night. Light winds Wednesday becoming northeast (10kn) Wednesday afternoon. Northeast winds (15kn, 8m/s) Wednesday night.



Satellite chlorophyll image and forecast winds for November 15, 2011 18Z with cell concentration sampling data from November 4 to 13 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).