Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Southwest Florida

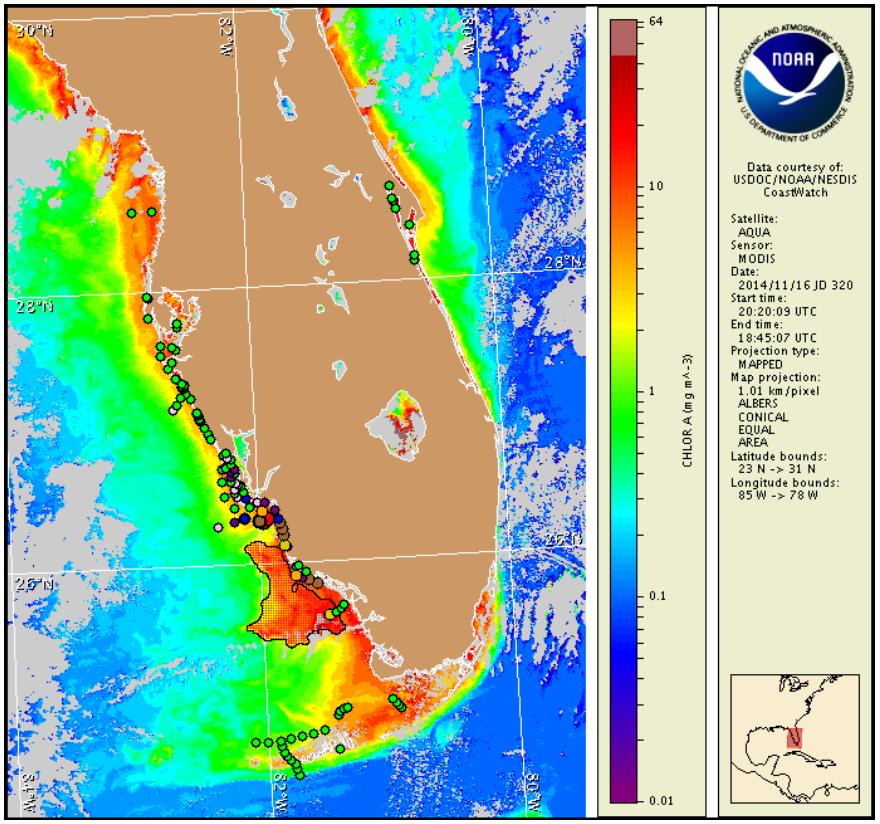
Monday, 17 November 2014

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, November 13, 2014



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from November 7 to 13: 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 Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute. 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 FWC Fish and Wildlife Research Institute at:

http://myfwc.com/redtidestatus

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit at: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Not present to high concentrations of *Karenia brevis* (commonly known as Florida red tide) are present along- and offshore portions of southwest Florida and not present in the Florida Keys. *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 Monday, November 17 to Thursday, November 20 is listed below:

County Region: Forecast (Duration)
Northern Lee, bay regions: Very Low (M-Th)
Central Lee, bay regions: Very Low (M-Th)
Southern Lee: Very Low (M), None (Tu-Th)
Northern Collier: Moderate (M), Very Low (Tu-Th)
Northern Collier, bay regions: Very Low (M-Th)
Central Collier: Moderate (M), Very Low (Tu-Th)
Central Collier, bay regions: Low (M-Th)
Southern Collier, bay regions: Low (M), Very Low (Tu-Th)
All Other SWFL County Regions: None expected (M-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Health information, from the Florida Department of Health and other agencies, is available at http://tidesandcurrents.noaa.gov/hab/hab_health_info.html. Reports of respiratory irritation and fish kills have been received over the past several days from Collier County.

Analysis

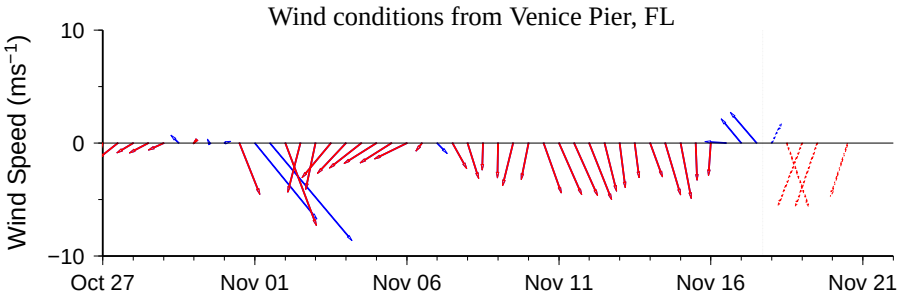
Not present to high concentrations of *Karenia brevis* are present along- and offshore portions of southwest Florida from Hernando to Collier counties (FWRI, MML, SCHD, CCPCPD; 11/6-11/13). Several samples collected last week indicated a decrease in *K. brevis* concentrations in the Gasparilla and Pine Island Sound regions of Charlotte and Lee counties, identifying 'not present' to 'very low b' concentrations where up to 'medium' *K. brevis* concentrations had been previously identified (FWRI; 11/3-11/13). Recent samples collected alongshore central Lee identified 'background' concentrations at Lighthouse Beach, and several samples collected alongshore southern Lee County identified 'very low a' to 'very low b' *K. brevis* concentrations (FWRI; 11/12). Samples collected approximately 4-10 miles offshore central and southern Lee County identified 'very low b' to 'medium' concentrations and 'high' *K. brevis* concentrations continue to be identified offshore Barefoot Beach in Collier County (FWRI; 11/12). 'Low a' to 'low b' concentrations were identified alongshore northern Collier County, with the highest concentrations found in Naples (FWRI; 11/12), and 'very low a' to 'medium' concentrations were identified in the Marco Island area, with the highest concentrations found at South Marco Beach (FWRI; 11/10-11/12). East of Marco Island, 'low a' concentrations were identified south of Coon Key and east of White Horse Key (FWRI; 11/10). A transect of samples collected offshore Monroe County identified 'low b' concentrations approximately 10 miles offshore Pavilion Key (MML; 11/11). All other samples collected along- and offshore southwest Florida from Pinellas to Monroe counties and the Florida Keys indicated that *K. brevis* is not present (FWRI, MML, SCHD, CCPCPD; 11/6-11/13). Reports of dead fish and respiratory irritation have been received from

Vanderbilt and Lowdermilk Park beaches in Collier County. Dead fish were also reported from Naples Beach and alongshore Marco Island (CCPCPD, FWRI; 11/12-16).

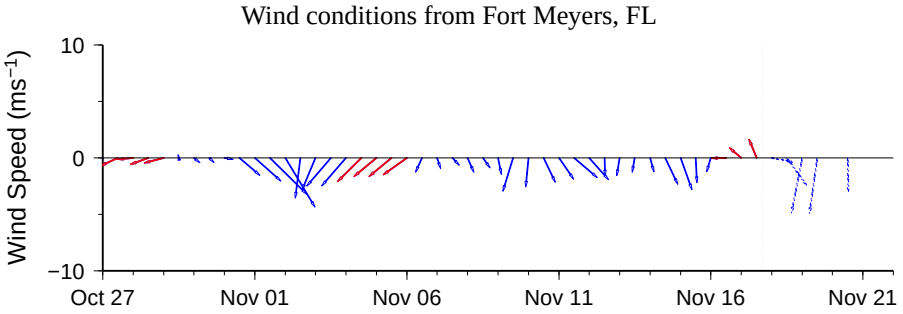
Recent MODIS Aqua imagery (11/16, shown left) indicates that the *K. brevis* bloom may have transported south over the past few days. Patches of elevated chlorophyll (2 to 10 μg/L) remain visible stretching along- and offshore Pinellas to Collier counties, with patches of high chlorophyll (10 to 20 μg/L) now visible along- and offshore Collier to Monroe counties, extending 13-55 miles offshore this region from 26.339°N -82.119°W to 26.339°N -82.119°W. A patch of very high chlorophyll (>20 μg/L) is visible just west of the area where 'low b' *K. brevis* concentrations were identified 10 miles offshore Pavilion Key (MML; 11/11). A feature of elevated chlorophyll is also visible approximately 7 miles south of Sanibel Island, extending from 9-26 miles offshore northern Collier County, centered at 26.277°N -82.116°W, west of the area where 'high' *K. brevis* concentrations have been identified (FWRI; 11/12).

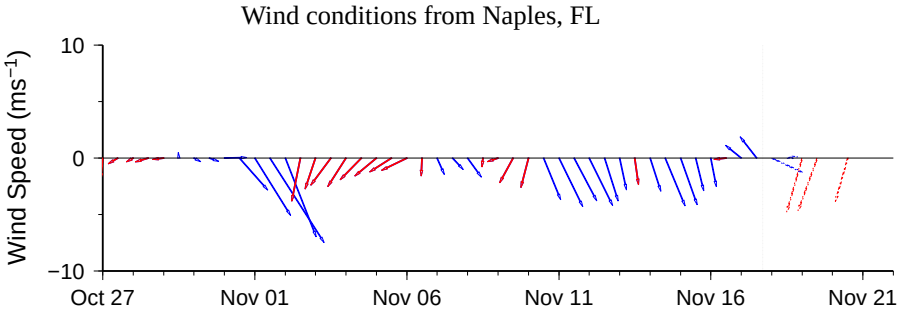
Northerly winds observed over the past several days may have transported surface *K. brevis* concentrations southward. North to northeast winds forecast tomorrow through Thursday may minimize onshore transport of surface *K. brevis* concentrations and favor upwelling conditions that may promote bloom intensification.

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).

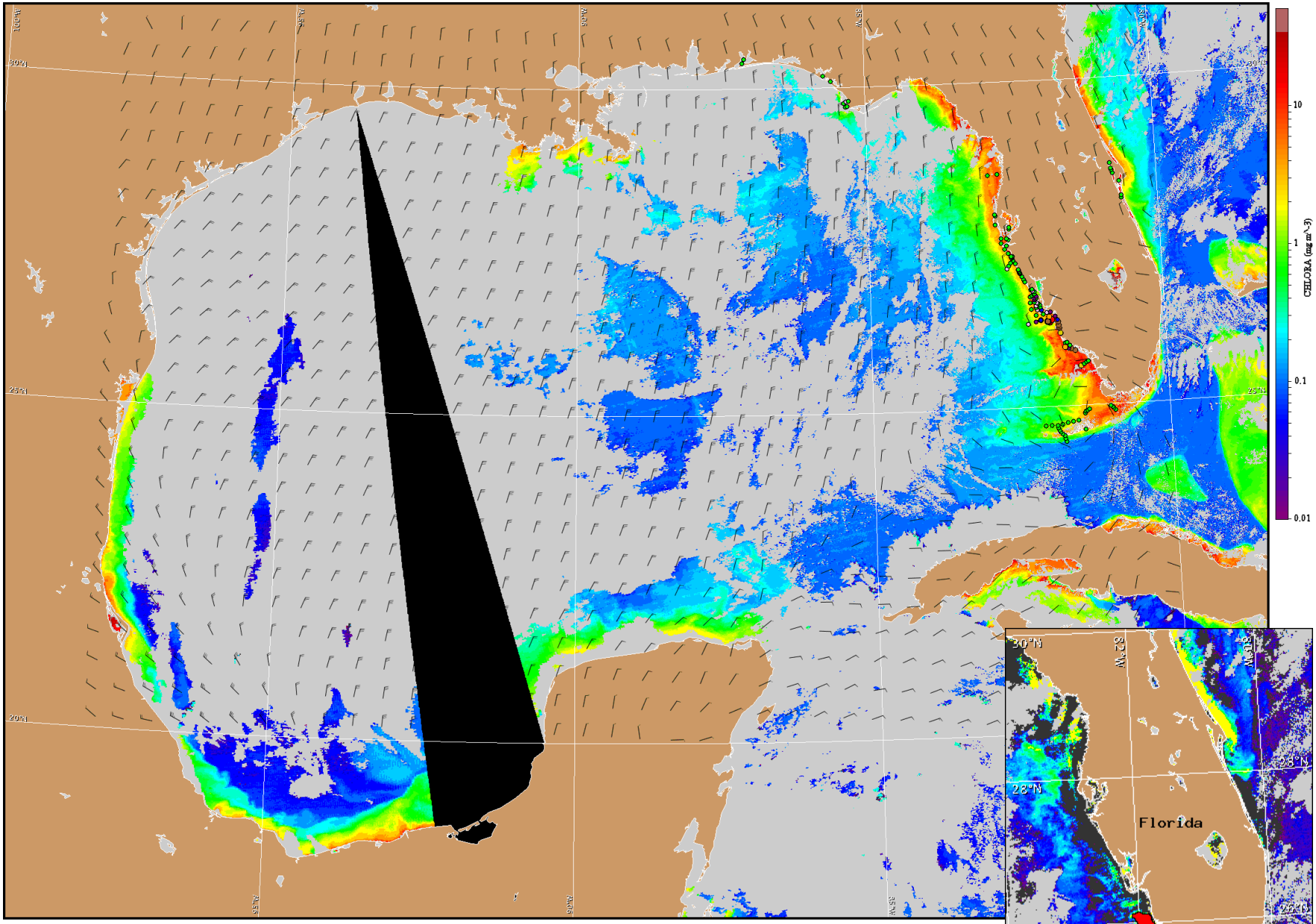




Wind Analysis

Bonita Beach to Englewood (Fort Myers Buoy): South winds (10-15kn, 5-8m/s) today. Southwest winds (15-20kn, 8-10m/s) tonight becoming northwest (20-25kn, 10-13m/s) late in the evening. North winds (20-25kn) Tuesday becoming northeast (10-20kn, 8-10m/s) Tuesday night through Wednesday. Northeast winds (10-15kn) Wednesday night through Thursday.

Chokoloskee to Bonita Beach (Naples Buoy): Southerly winds (10kn, 5m/s) today becoming west (10-15kn) tonight. North winds (15-20kn) Tuesday becoming north-northeast (15-20kn) Tuesday night. Northeast winds (10-20kn) Wednesday through Thursday.



Satellite chlorophyll image and forecast winds for November 18, 2014 12Z with points representing cell concentration sampling data from November 7 to 13: 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 Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute. 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).