



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Southwest Florida

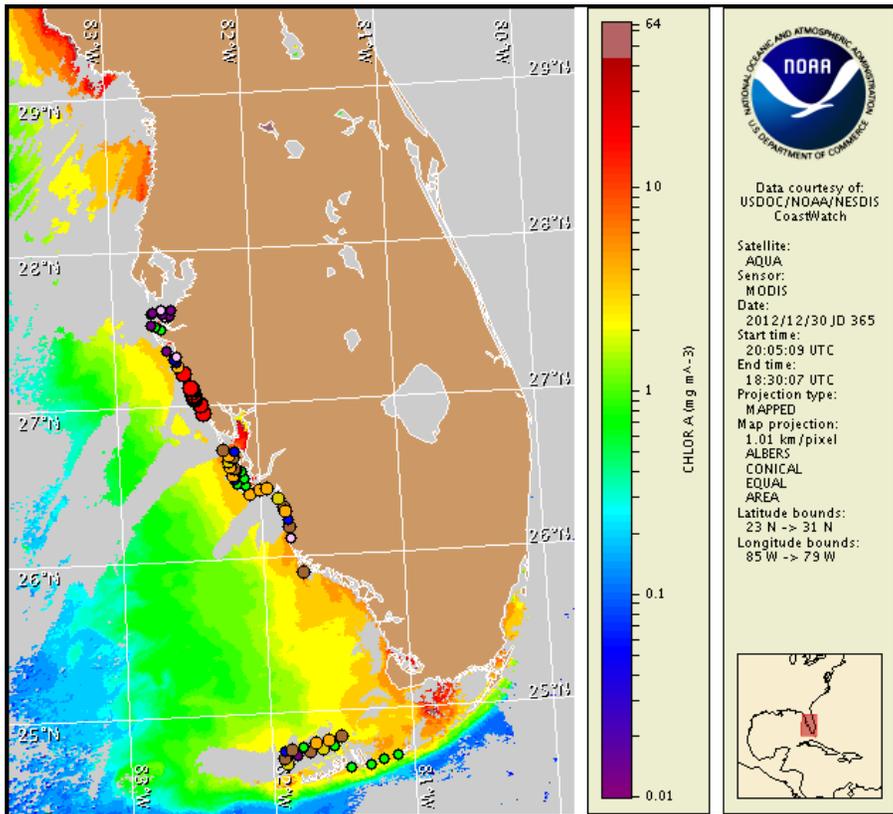
Monday, 31 December 2012

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Wednesday, December 26, 2012



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s). Cell concentration sampling data from December 26 to 29 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). Cell count data are provided by Florida 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 the Florida FWC Fish and Wildlife Research Institute at:

<http://myfwc.com/research/redtide/events/status/statewide/>

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

Conditions Report

Very low to high concentrations of *Karenia brevis* (commonly known as Florida Red Tide) are present along- and offshore from southern Pinellas to Collier counties, as well as offshore the gulfside of the lower Florida Keys. In the bay regions of southern Pinellas and Manatee counties, patchy very low respiratory impacts are possible today through Thursday. In the bay regions of Sarasota County, patchy moderate respiratory impacts are possible today through Thursday. Alongshore Sarasota and northern Charlotte counties, low respiratory impacts are possible today, with high respiratory impacts Tuesday through Thursday. In the bay regions of Charlotte and Lee counties, moderate respiratory impacts are possible today through Thursday. In southern Lee County, very low respiratory impacts are possible today, with moderate respiratory impacts Tuesday through Thursday. In northern Collier County, very low respiratory impacts are possible today through Wednesday, with moderate respiratory impacts on Thursday. In the bay regions of central Collier County, low respiratory impacts are possible today through Thursday. No respiratory impacts are expected elsewhere alongshore southwest Florida, including the Florida Keys, today through Thursday, January 3. Over the past few days, respiratory irritation and dead fish were reported alongshore Sarasota County.

Analysis

Southwest Florida: A harmful algal bloom of *Karenia brevis* is present along- and offshore southwest Florida from southern Pinellas to Collier counties, with *K. brevis* concentrations ranging from 'very low a' to 'high'. Recent samples indicate *K. brevis* ranges from background to 'very low a' in the bay regions of Pinellas and Manatee counties, with background to 'medium' concentrations in the bay regions of northern Sarasota County (FWRI, MML, SCHD; 12/24-26). In Sarasota County, samples indicate *K. brevis* concentrations increased to a range from 'very low a' to 'high', with 'high' concentrations identified from Turtle Beach south to Blind Pass (FWRI, SCHD; 12/26). In the bay regions of Charlotte and Lee counties, *K. brevis* ranged from not present to 'medium' concentrations; 'low b' to 'medium' concentrations were identified from southern Lee County (FWRI; 12/26). In Collier County, *K. brevis* concentrations increased to a range between background and 'medium' where previous sampling indicated concentrations ranging between 'not present' and 'very low a' (FWRI, CCPCPD; 12/20-27).

Recent MODIS Aqua imagery (12/30; shown left) is partially obscured by clouds along- and offshore the southwest Florida coast, from Pinellas to Collier counties, limiting analysis. Elevated chlorophyll (2-6 µg/L) is visible stretching along- and offshore the coast of southwest Florida from Pinellas to Monroe counties, with patches of elevated to very high chlorophyll (3 to >20 µg/L) visible inshore the bay regions of Charlotte/Lee counties. The anomaly image (see page 4) shows a feature spanning offshore from northern Manatee to Lee counties (27°35'10''N -83°2'16''W to 28°18'51''N -83°30'56''W).

Forecasted winds today through Thursday may transport the bloom north and promote the potential for onshore transport. Forecasted onshore winds Tuesday through Thursday may intensify respiratory impacts along the coast from Sarasota to Collier counties.

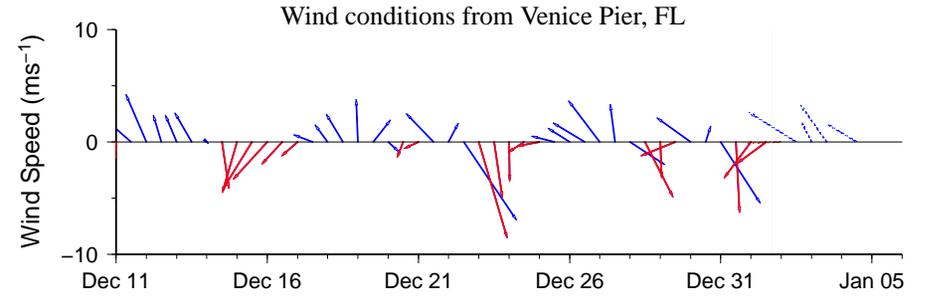
Florida Keys: A harmful algal bloom of *Karenia brevis* is present offshore the gulf side of the lower Florida Keys, with *K. brevis* concentrations ranging from 'very low a' to 'medium' extending from approximately 10 miles northwest of Key West to 4.5 miles

north of Content Keys (MML; 12/29). Samples continue to indicate that *K. brevis* is not present alongshore the lower and middle Keys (MML; 12/29).

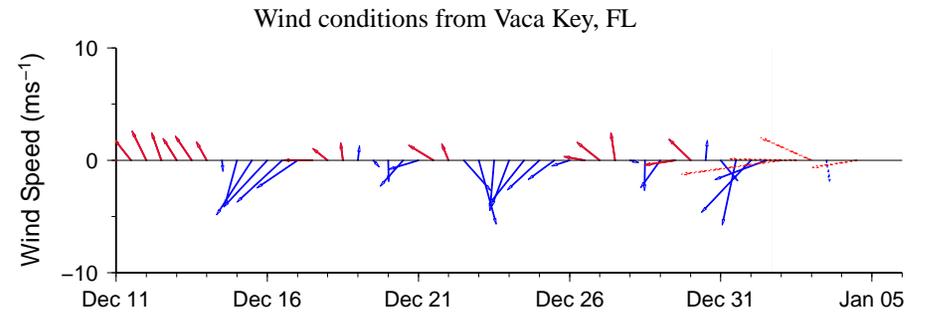
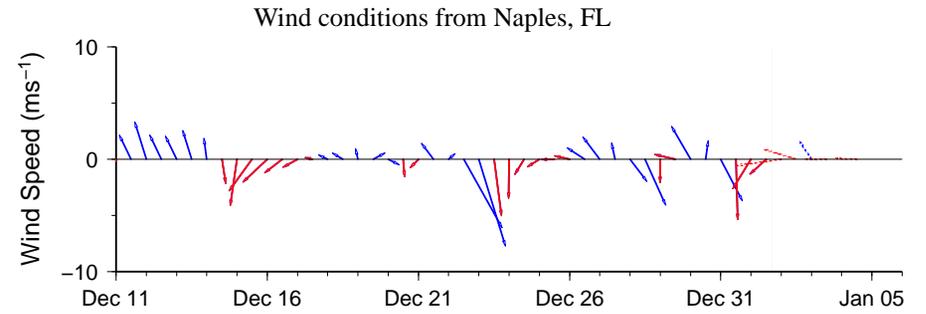
MODIS Aqua imagery (12/30; shown page 1) is partially obscured by clouds along- and offshore the gulfside of the Florida Keys, limiting analysis. Elevated chlorophyll concentrations (2-8 $\mu\text{g/L}$) are visible along- and offshore the lower and middle Keys. Forecasted winds today through Thursday may promote the potential for westerward transport of the bloom and decrease the likelihood of onshore transport.

Kavanaugh, Davis

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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).



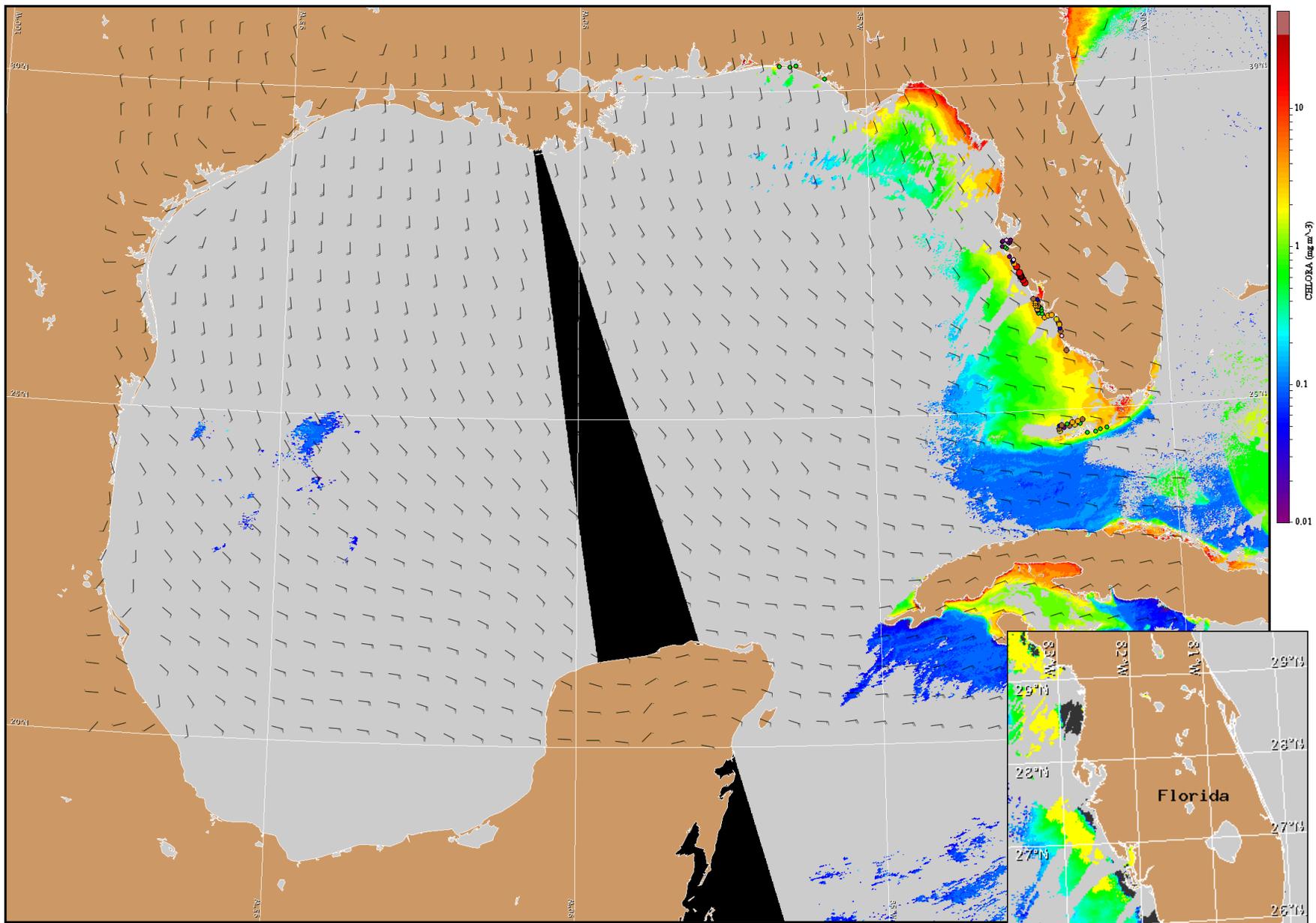
Wind Analysis

Pinellas to Charlotte counties: Southeast winds (10-15 kn, 5-8 m/s) today. South to southwest winds (5-10 kn, 3-5 m/s) Tuesday through Wednesday. Southeast to south winds (10-15 kn) Thursday becoming southwest to west winds (10-15 kn) in the afternoon.

Charlotte to Lee counties: East winds (10-15 kn) today. Southeast to south winds (5-15 kn, 3-8 m/s) Tuesday through Thursday becoming southwest winds (5-10 kn) Thursday afternoon.

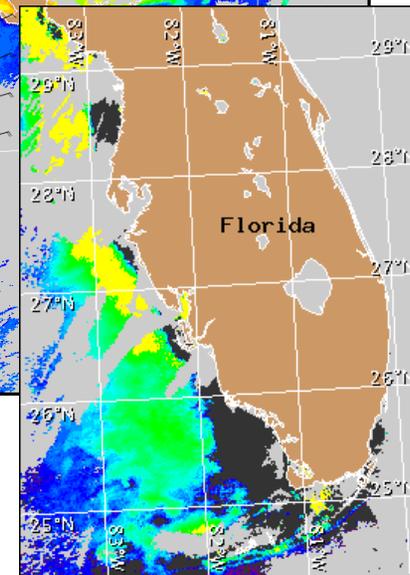
Collier and Monroe counties: East winds (9-15 kn, 5-7 m/s) today. Southeast to east southeast winds (5-14 kn, 3-7 m/s) Tuesday through Wednesday. South southeast winds (8-13 kn, 4-7 m/s) Thursday becoming south southwest winds (5-9 kn, 3-5 m/s) Thursday night.

Gulf side of Lower Florida Keys: East to southeast winds (10-20 kn, 5-10 m/s) today through Thursday becoming northeast winds (15 kn, 8 m/s) Thursday night.



Satellite chlorophyll image and forecast winds for January 1, 2013 12Z with cell concentration sampling data from December 26 to 29 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). Cell count data are provided by Florida 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).