



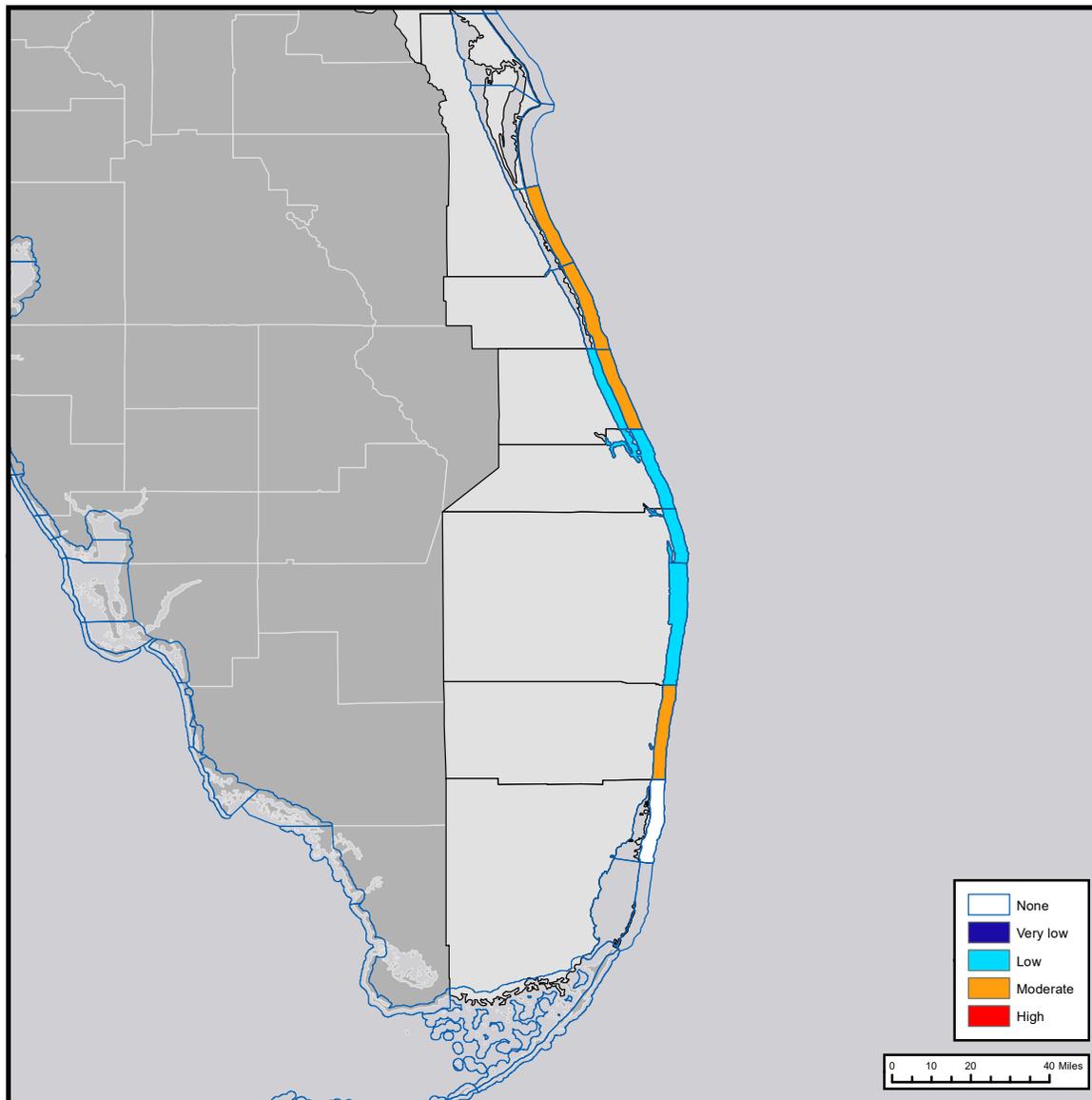
Gulf of Mexico Harmful Algal Bloom Bulletin

Tuesday, October 16, 2018
 NOAA National Ocean Service
 NOAA Satellite and Information Service
 NOAA National Weather Service

Region: East Florida



Instructions for viewing this geospatial pdf are available at: <https://go.usa.gov/xn9g2>.



The image above is the top layer in a series of maps for 10-16-18 to 10-19-18 displaying the highest level of potential respiratory irritation forecasts in each region.

Conditions Report

Not present to medium concentrations of *Karenia brevis* (commonly known as red tide) are present along- and offshore portions of east Florida. *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.

Recently Reported Impacts (Listed by County):

Respiratory irritation: Brevard, Indian River
Dead fish: Indian River, Palm Beach, Broward

Definition of respiratory irritation levels.

RESPIRATORY IRRITATION LEVEL	AFFECTED POPULATION				
	NONE	CHRONIC RESPIRATORY CONDITION	SENSITIVE TO RED TIDE	GENERAL PUBLIC (MILD SYMPTOMS)	GENERAL PUBLIC (INTENSE SYMPTOMS)
None	X				
Very low		X			
Low		X	X		
Moderate		X	X	X	
High		X	X	X	X

Additional Resources

Health Information:

Florida Department of Health:
<http://www.floridahealth.gov/environmental-health/aquatic-toxins/red-tide.html>
Other resources: <https://go.usa.gov/xQNWp>

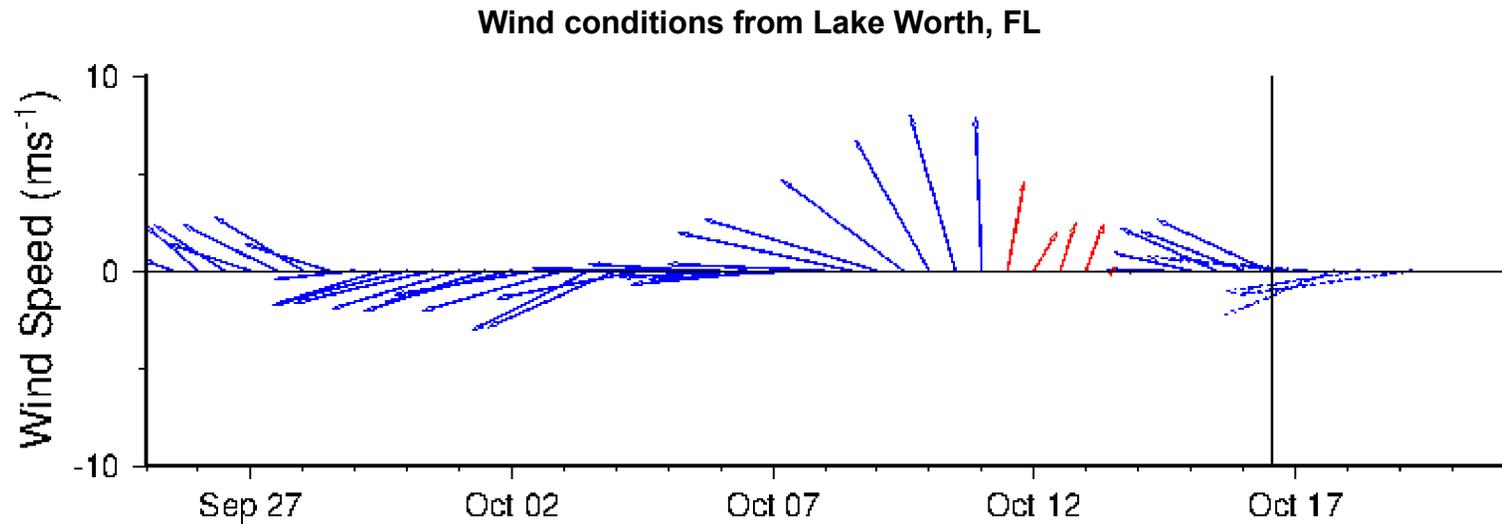
Recent, Local Observations and Data:

Mote Marine Laboratory Daily Beach Conditions:
<http://visitbeaches.org>
Florida Fish and Wildlife Conservation Commission:
<http://myfwc.com/redtidestatus>

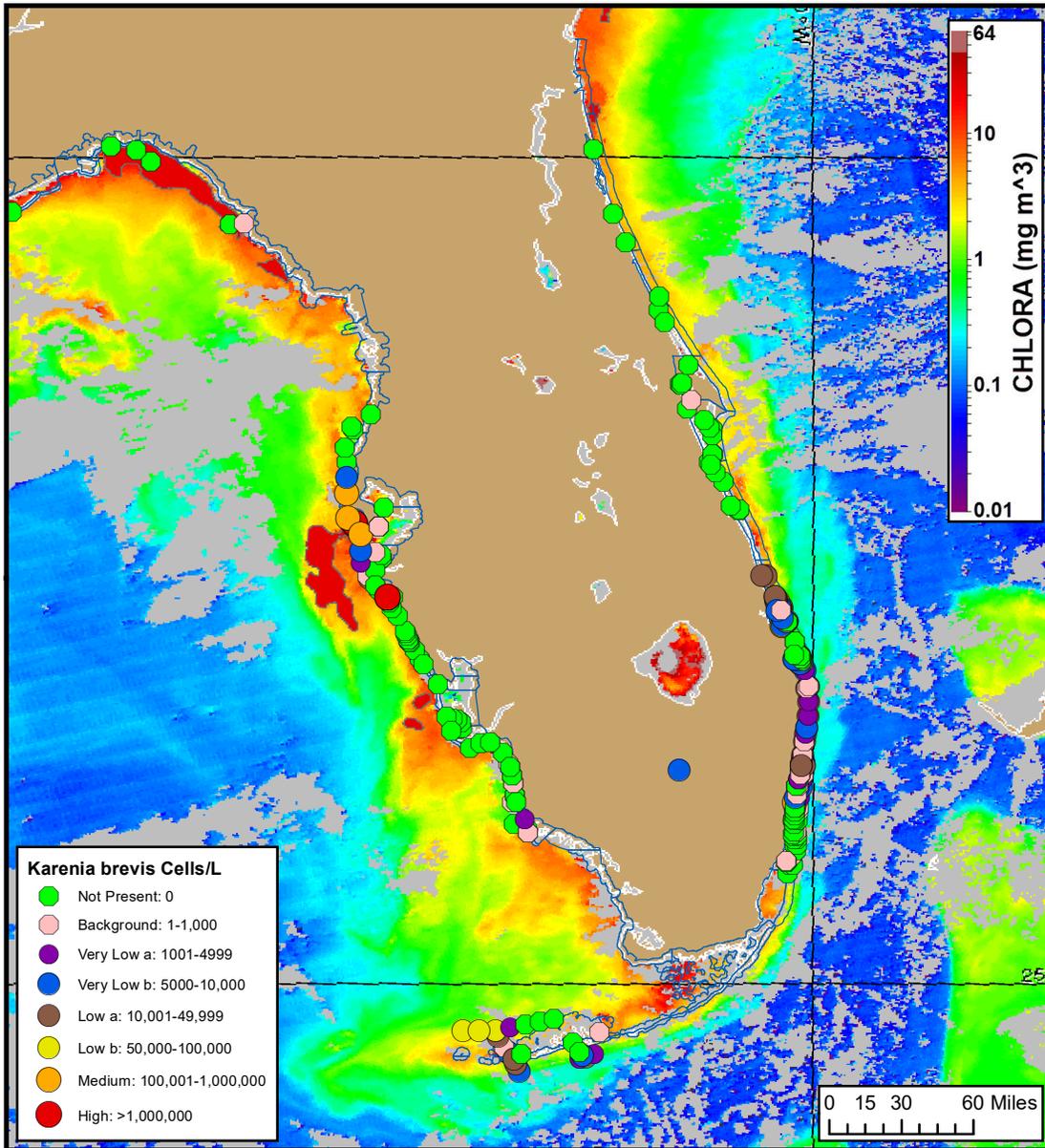
State Name	County Region	Tue 10/16	Wed 10/17	Thu 10/18	Fri 10/19			
Florida								
	NASSAU County-Coast							
	DUVAL County-Coast							
	SAINT JOHNS County-Coast							
	FLAGLER County-Coast							
	Northern VOLUSIA County-Coast							
	Northern VOLUSIA County-Bay Regions							
	Southern VOLUSIA County-Coast							
	Southern VOLUSIA County-Bay Regions							
	Northern BREVARD County-Coast							
	Northern BREVARD County-Bay Regions							
	Central BREVARD County-Coast							
	Central BREVARD County-Bay Regions							
	Southern BREVARD County-Coast	moderate	moderate	moderate	moderate			
	Southern BREVARD County-Bay Regions							
	INDIAN RIVER County-Coast	moderate	moderate	moderate	moderate			
	INDIAN RIVER County-Bay Regions							
	SAINT LUCIE County-Coast	moderate	moderate	moderate	moderate			
	SAINT LUCIE County-Bay Regions	low	low	low	low			
	MARTIN County-Coast	low	low	low	low			
	Northern PALM BEACH County-Coast	low	low	low	low			
	Southern PALM BEACH County-Coast	low	low	low	low			
	BROWARD County-Coast	moderate	moderate	moderate	moderate			
	Northern MIAMI-DADE County-Coast	none	none	none	none			
	Northern MIAMI-DADE County-Bay Regions	none	none	none	none			
	Southern MIAMI-DADE County-Coast							
	Southern MIAMI-DADE County-Bay Regions							

The table lists the highest level of potential respiratory irritation forecast. *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.

Cells are marked 'none' if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.



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). A text summary of the marine forecast by region is available from NWS at <https://go.usa.gov/xnx4B>.



Karenia brevis cell concentration sampling data from: 10/06/18 through 10/15/18. 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: https://tidesandcurrents.noaa.gov/hab/hab_publication/GOMX_HAB_Bulletin_Guide.pdf. Detailed sample information can be obtained through the Florida FWC Fish and Wildlife Research Institute: <http://myfwc.com/REDTIDESTATUS>.

MODIS Aqua satellite chlorophyll image (10/14/18) with possible *K. brevis* HAB areas shown by red polygon(s).

Analysis

Summary of Recent Water Samples:

***K. brevis* Cell Concentrations:**
Range: Not Present through Medium
Date: 10/06-10/15
Source: FWRI

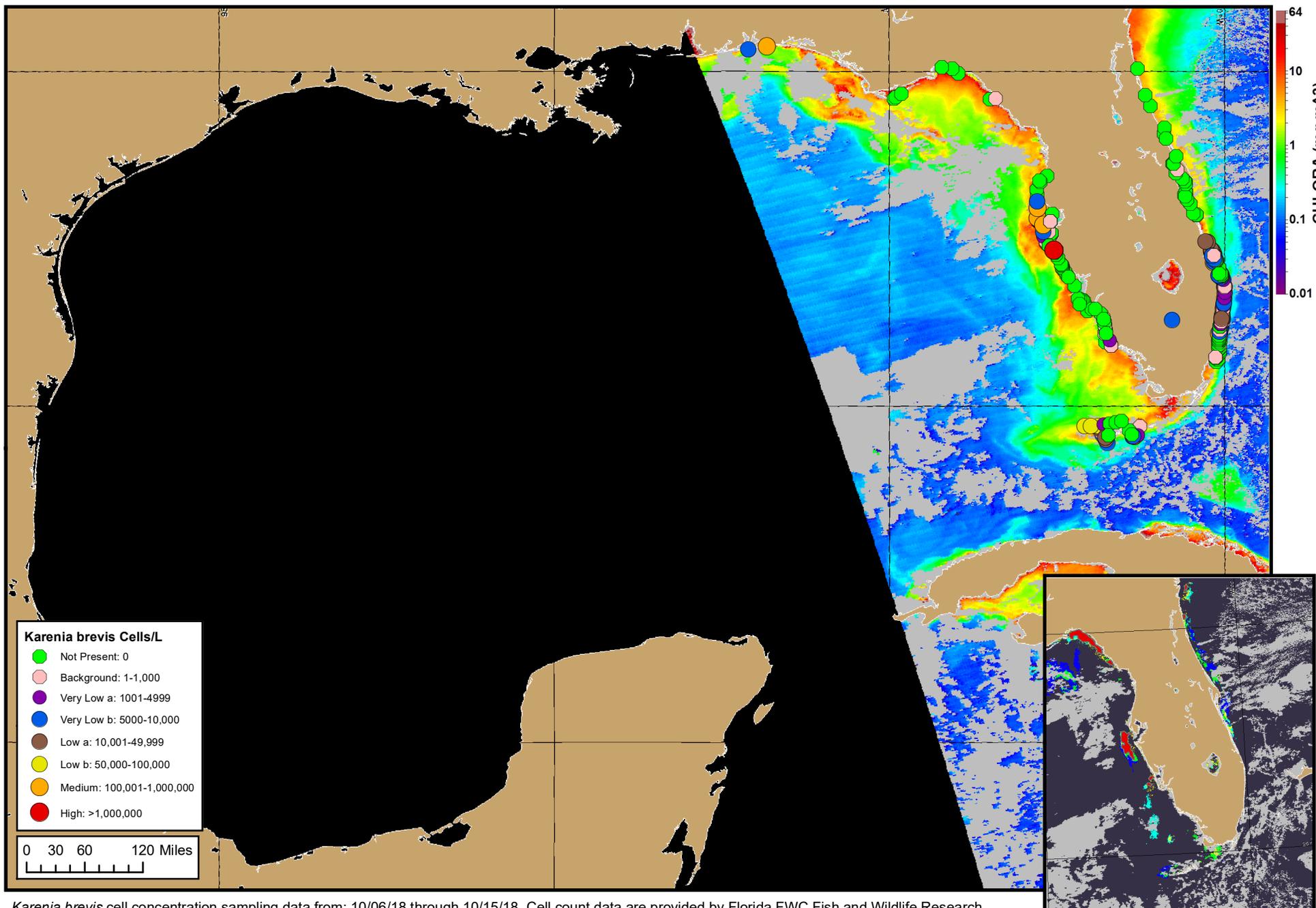
Imagery:

Recent ensemble imagery (MODIS Aqua, 10/14) indicates patches of elevated chlorophyll (2-9 $\mu\text{g/L}$) with the optical characteristics of *K. brevis* are visible offshore St. Lucie to Indian River counties. Large patches of elevated chlorophyll (2 -4 $\mu\text{g/L}$) with some of the optical characteristics of *K. brevis* are present along- and up to 14 miles offshore Brevard County. Additional sampling in Brevard and Indian River counties is recommended

Forecasts:

Forecast winds and currents today through Friday (10/16-19) will promote the potential for northerly transport of surface *K. brevis* and may increase the potential for respiratory irritation at the coast.

Yang, Ludema



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Verified and suspected HAB areas shown in red. Other areas with *K. brevis* optical characteristics shown in yellow (see p. 4 analysis for interpretation).