



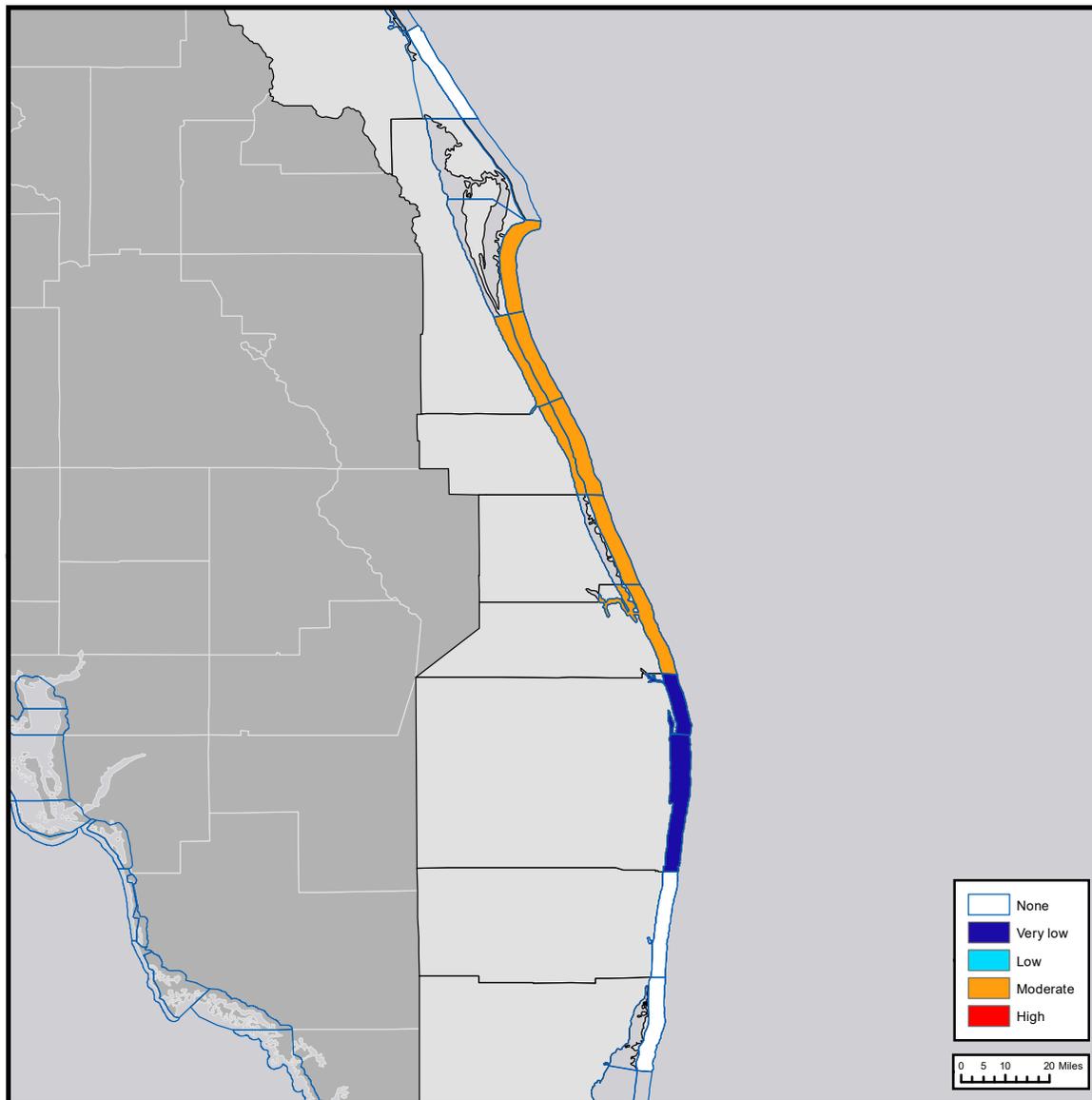
Gulf of Mexico Harmful Algal Bloom Bulletin

Tuesday, October 30, 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 10-30-18 to 11-02-18 displaying the highest level of potential respiratory irritation forecasts in each region.

Conditions Report

Not Present to high 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, St. Lucie
Dead fish: Brevard, Indian River, Palm Beach

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:

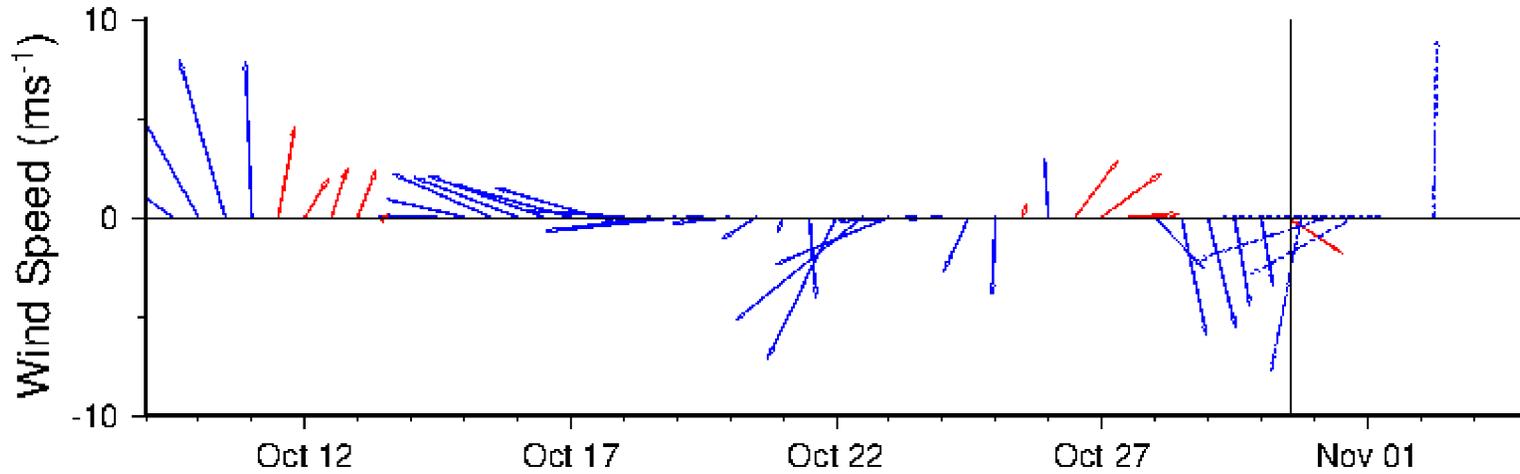
Mote Marine Laboratory Daily Beach Conditions:
<http://visitbeaches.org>
Florida Fish and Wildlife Conservation Commission:
<http://myfwc.com/redtidestatus>

State Name	County Region	Tue 10/30	Wed 10/31	Thu 11/01	Fri 11/02			
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	none	none	none	none			
	Southern VOLUSIA County-Bay Regions							
	Northern BREVARD County-Coast							
	Northern BREVARD County-Bay Regions							
	Central BREVARD County-Coast	moderate	moderate	moderate	low			
	Central BREVARD County-Bay Regions							
	Southern BREVARD County-Coast	moderate	moderate	moderate	low			
	Southern BREVARD County-Bay Regions	moderate	moderate	moderate	moderate			
	INDIAN RIVER County-Coast	moderate	moderate	moderate	moderate			
	INDIAN RIVER County-Bay Regions	moderate	moderate	moderate	moderate			
	SAINT LUCIE County-Coast	moderate	moderate	moderate	moderate			
	SAINT LUCIE County-Bay Regions							
	MARTIN County-Coast	moderate	moderate	moderate	moderate			
	Northern PALM BEACH County-Coast	very low	very low	very low	very low			
	Southern PALM BEACH County-Coast	very low	very low	very low	very low			
	BROWARD County-Coast	none	none	none	none			
	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.

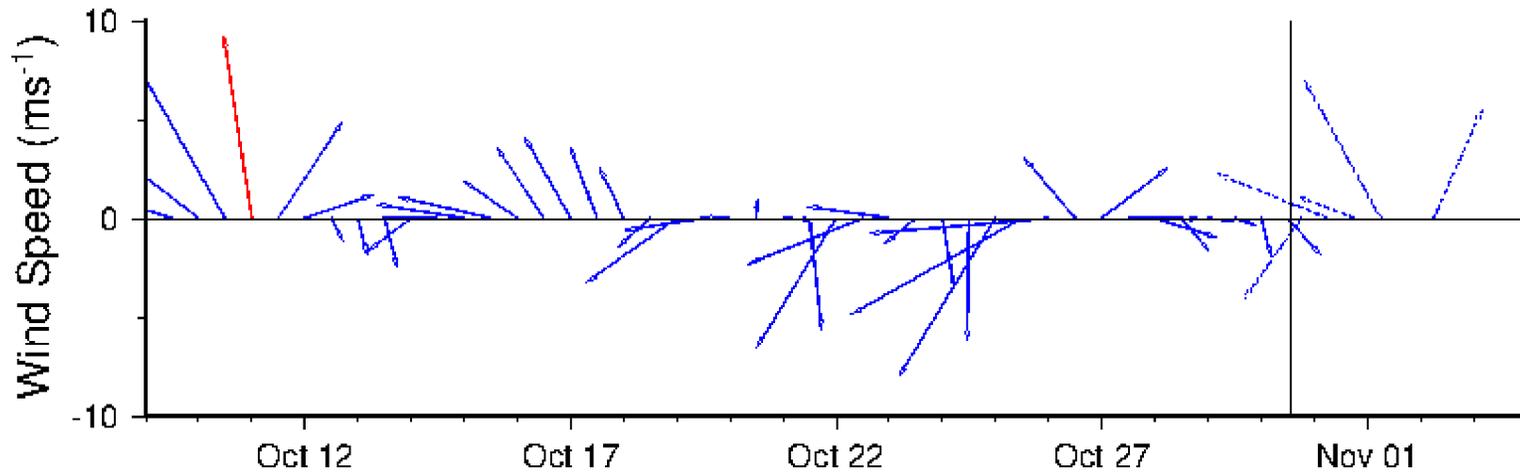
Cells are marked 'none' if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.

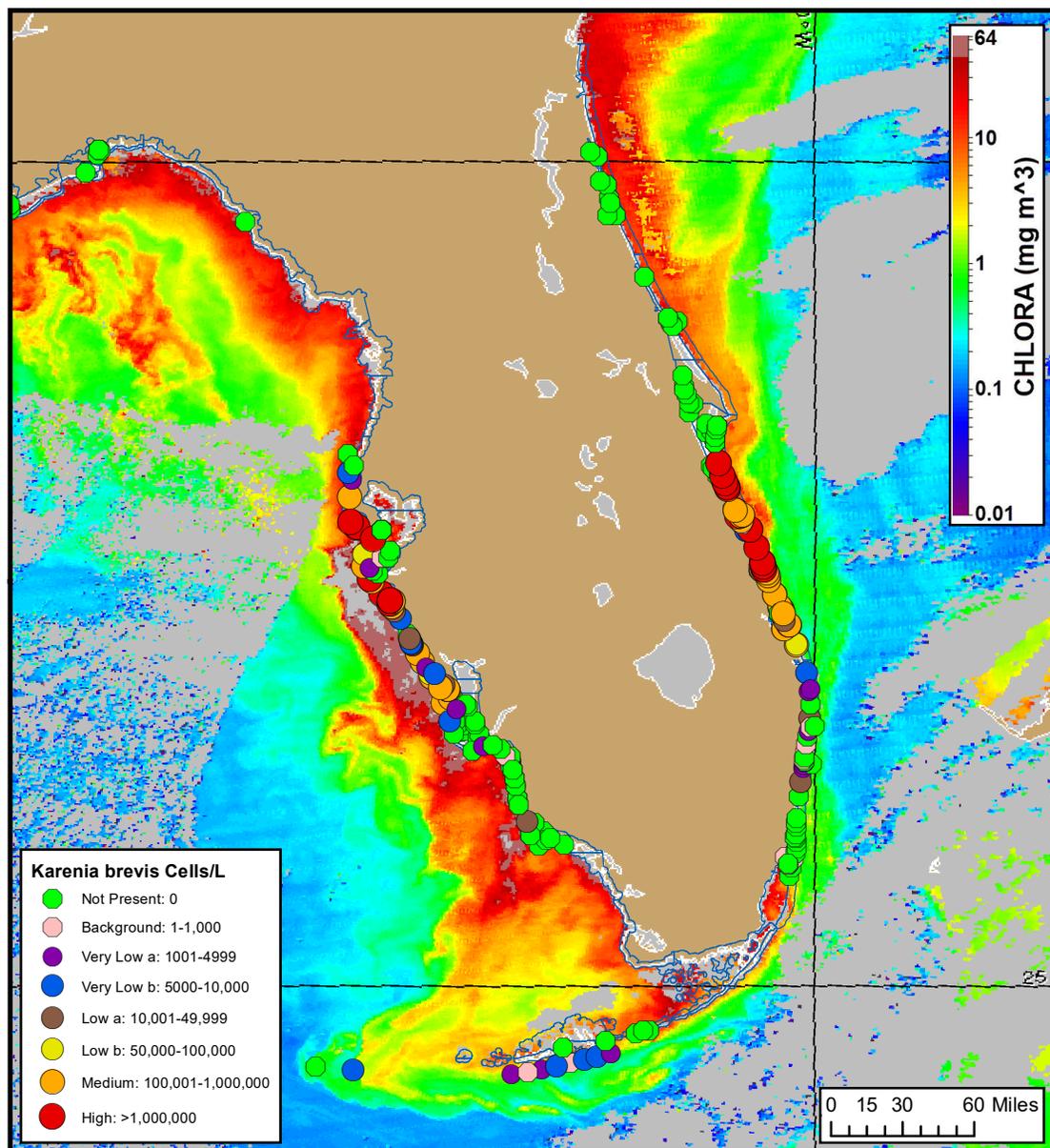
Wind conditions from Lake Worth, FL



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>.

Wind conditions from St Augustine, FL





Karenia brevis cell concentration sampling data from: 10/20/18 through 10/29/18. 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 (10/29/18) with possible *K. brevis* HAB areas shown by red polygon(s).

Analysis

Summary of Recent Water Samples:

K. brevis Cell Concentrations:

Range: Not Present to High

Date: 10/20-10/29

Source: FWRI

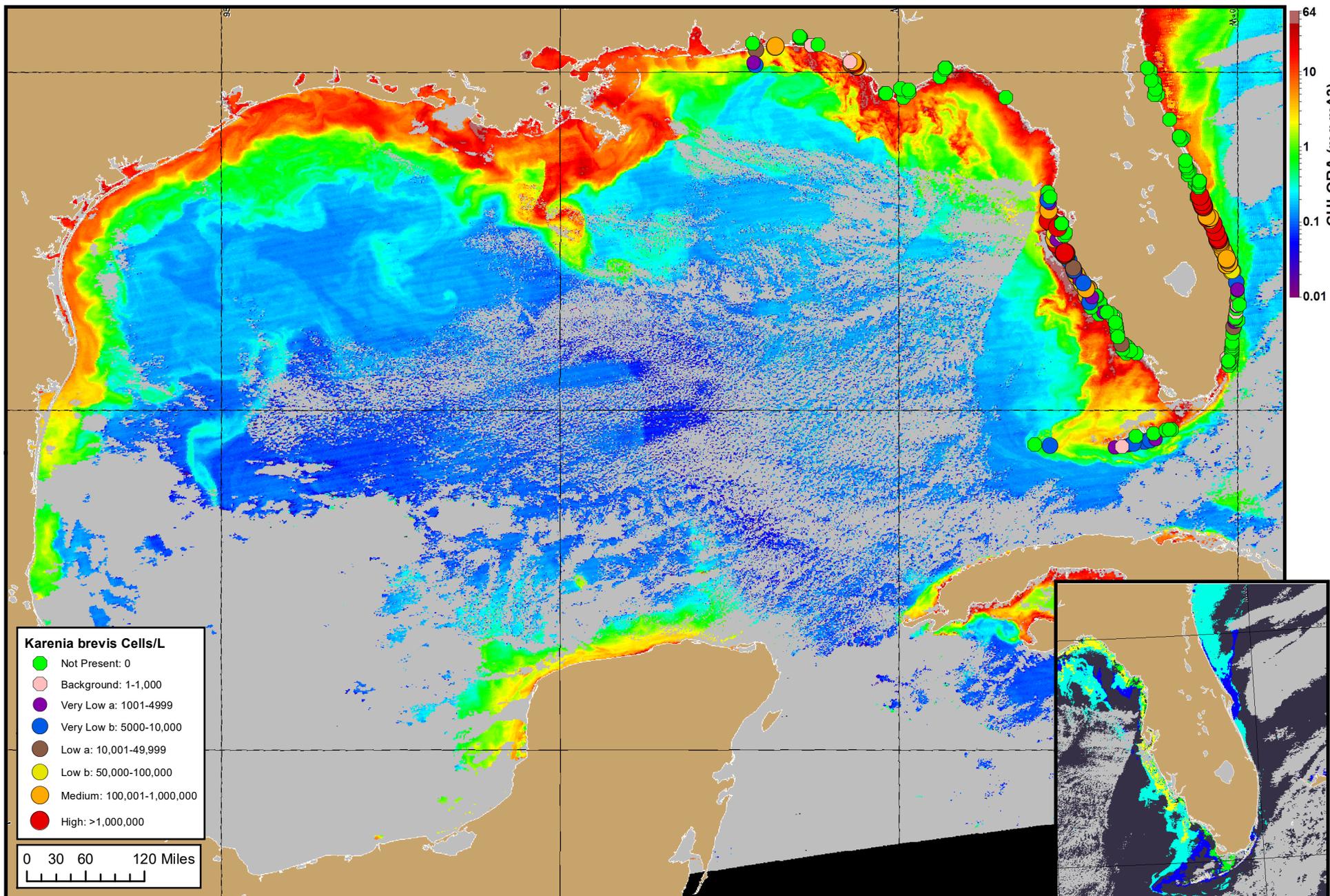
Imagery:

In recent ensemble imagery (MODIS Aqua, 10/29), patches of elevated to high chlorophyll (2-16 $\mu\text{g/L}$) with some of the optical characteristics of *K. brevis* are visible alongshore St. Lucie to Brevard counties.

Forecasts:

Forecast onshore and alongshore winds Tuesday through Friday (10/30-11/2) will increase the potential for respiratory irritation at the coast and promote the northerly transport of surface *K. brevis* concentrations.

Ludema, Davis



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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).