



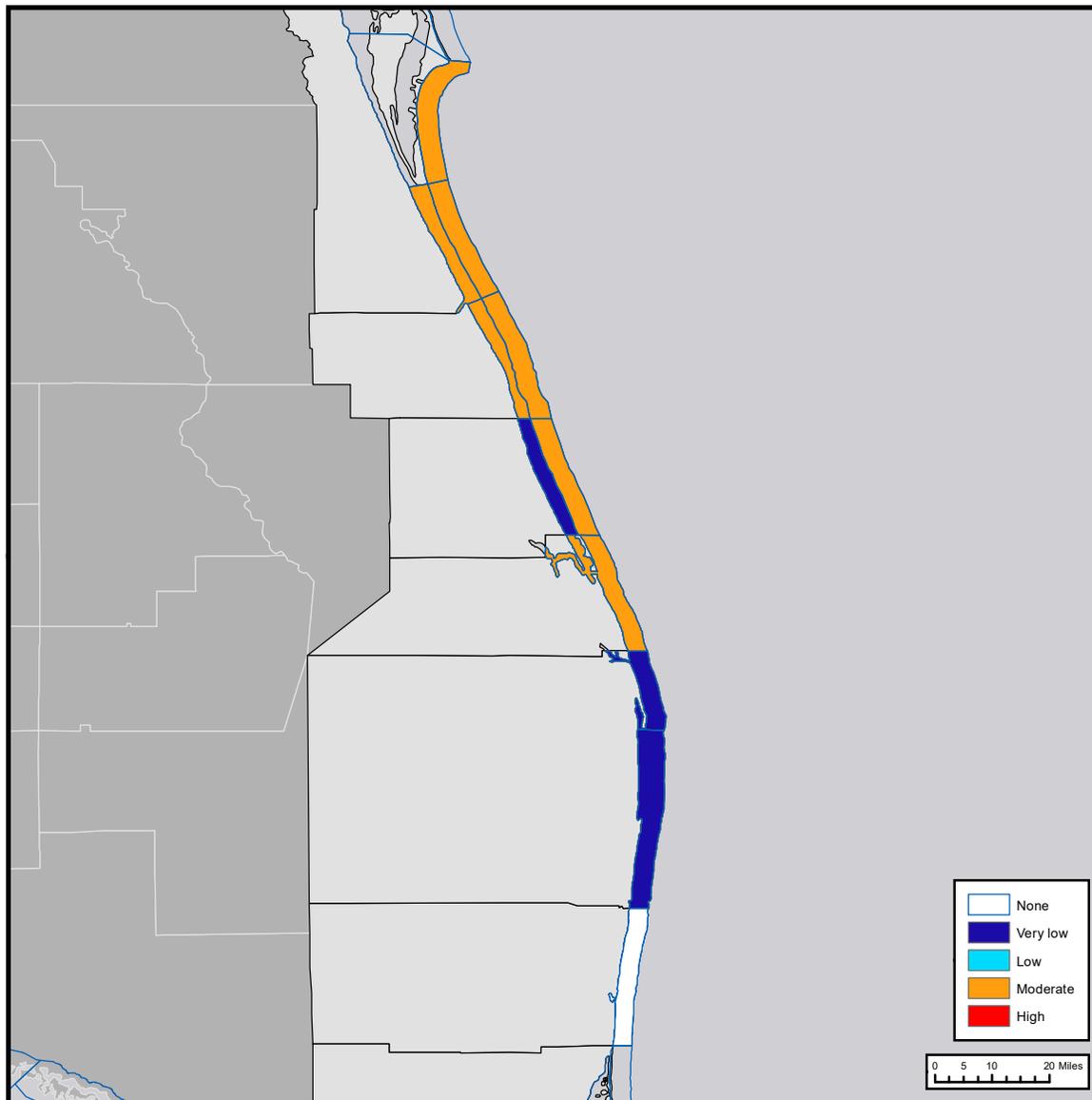
# Gulf of Mexico Harmful Algal Bloom Bulletin

Friday, November 2, 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 11-02-18 to 11-06-18 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  
**Dead fish:** Brevard

### 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>

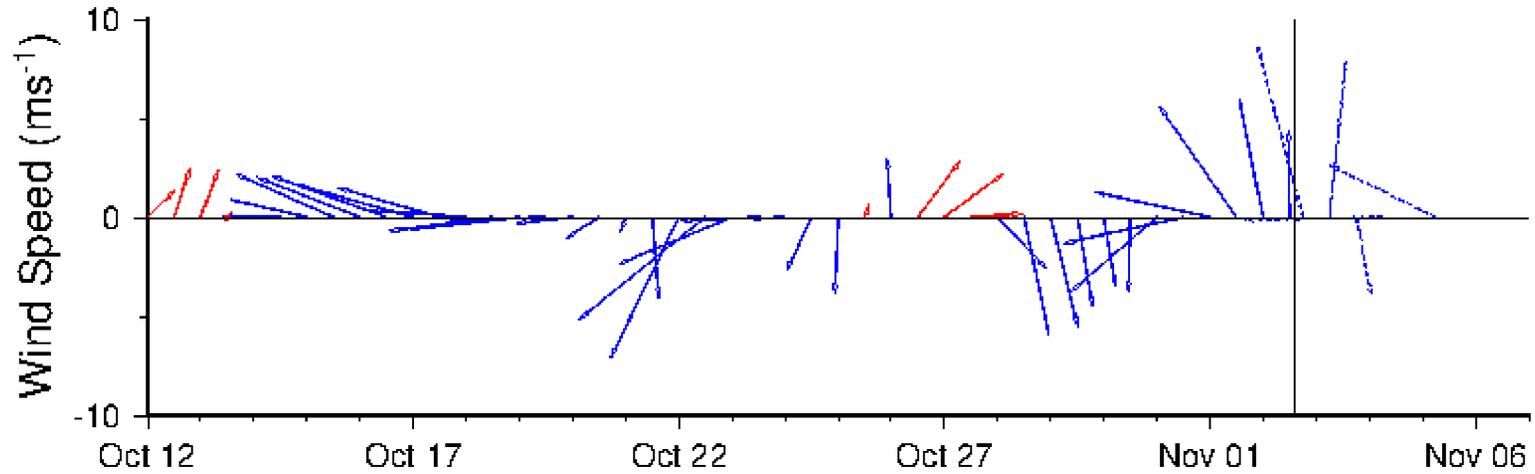
### Recent, Local Observations and Data:

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

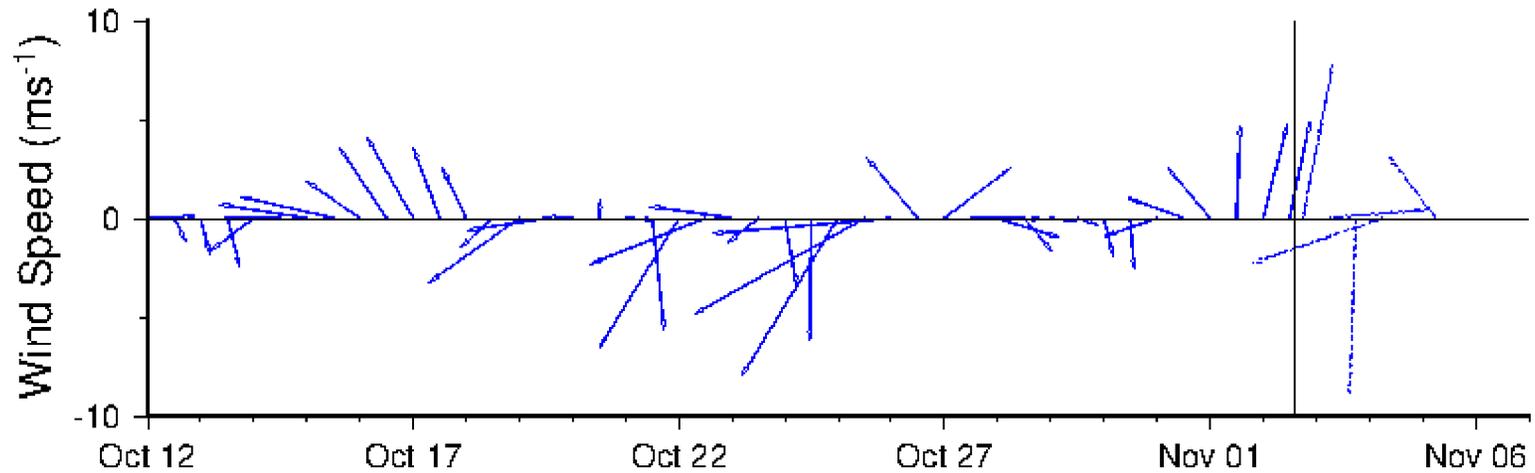
State Name	County Region	Fri 11/02	Sat 11/03	Sun 11/04	Mon 11/05	Tue 11/06		
Florida								
	NASSAU County-Coast							
	DUVAL County-Coast							
	SAINT JOHNS County-Coast							
	FLAGLER County-Coast							
	Northern VOLUSIA County-Coast							
	Northern VOLUSIA County-Bay Regions							
	Southern VOLUSIA County-Coast							
	Southern VOLUSIA County-Bay Regions							
	Northern BREVARD County-Coast							
	Northern BREVARD County-Bay Regions							
	Central BREVARD County-Coast	moderate	moderate	moderate	moderate	moderate		
	Central BREVARD County-Bay Regions							
	Southern BREVARD County-Coast	moderate	moderate	moderate	moderate	moderate		
	Southern BREVARD County-Bay Regions	moderate	moderate	moderate	moderate	moderate		
	INDIAN RIVER County-Coast	moderate	moderate	moderate	moderate	moderate		
	INDIAN RIVER County-Bay Regions	moderate	moderate	moderate	moderate	moderate		
	SAINT LUCIE County-Coast	moderate	moderate	moderate	moderate	moderate		
	SAINT LUCIE County-Bay Regions	very low						
	MARTIN County-Coast	moderate	moderate	moderate	moderate	moderate		
	Northern PALM BEACH County-Coast	very low						
	Southern PALM BEACH County-Coast	very low						
	BROWARD County-Coast	none	none	none	none	none		
	Northern MIAMI-DADE County-Coast							
	Northern MIAMI-DADE County-Bay Regions	none	none	none	none	none		
	Southern MIAMI-DADE County-Coast							
	Southern MIAMI-DADE County-Bay Regions							

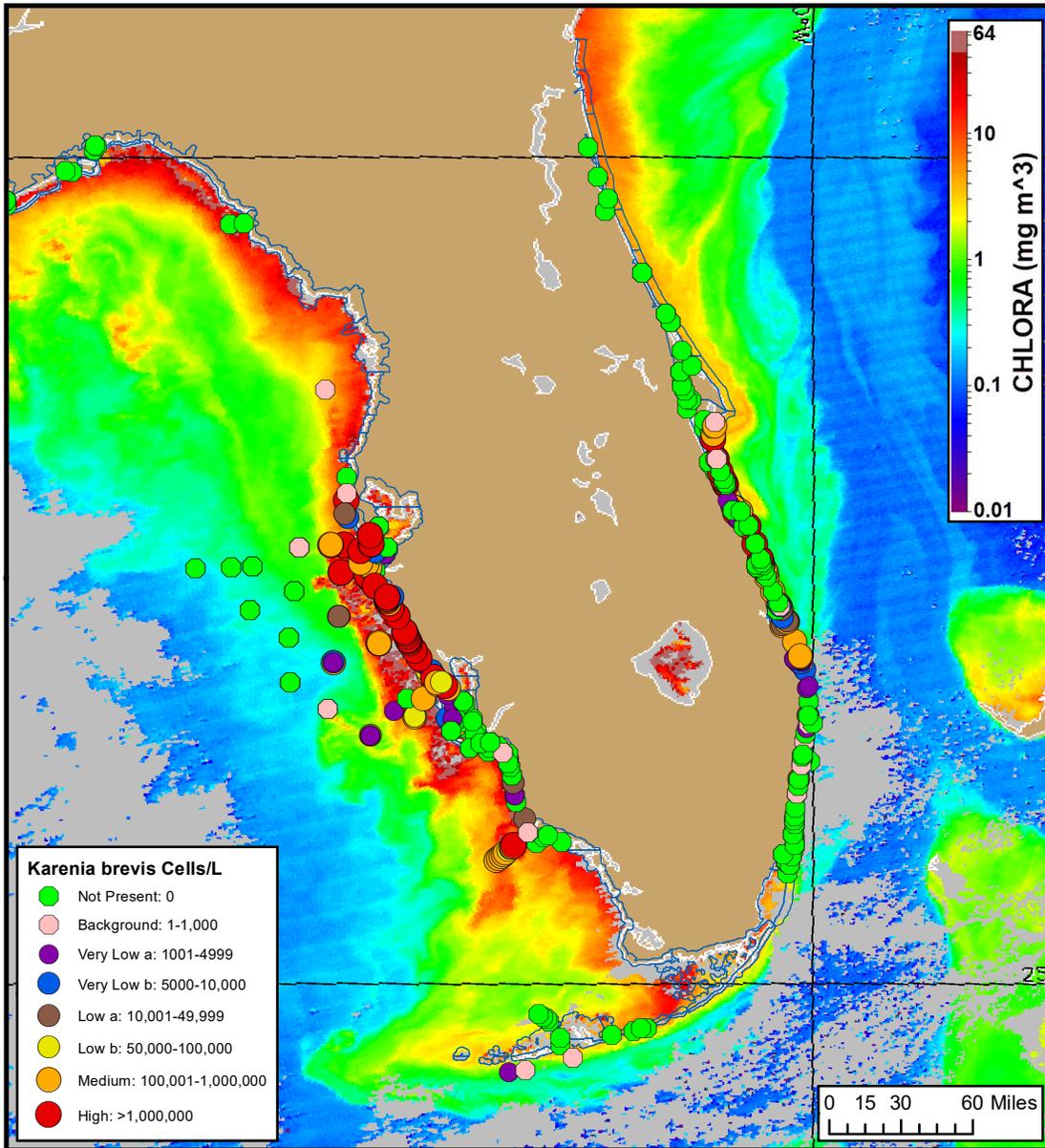
The table lists the highest level of potential respiratory irritation forecast. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction.

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**



## Analysis

### Summary of Recent Water Samples:

#### *K. brevis* Cell Concentrations:

**Range:** Not Present to High

**Date:** 10/23-11/01

**Source:** FWRI

### Imagery:

Recent ensemble imagery (MODIS Aqua, 10/30), is partially obscured by clouds from Palm Beach to Miami-Dade counties, limiting analysis. Patches of elevated chlorophyll (2- 5 µg/L) with some of the optical characteristics of *K. brevis* are visible alongshore St. Lucie to Brevard counties. An additional anomaly in MODIS imagery (10/29-11/1) can be seen extending southwest from Collier County, around the Marquesas Keys, and into the Florida Current.

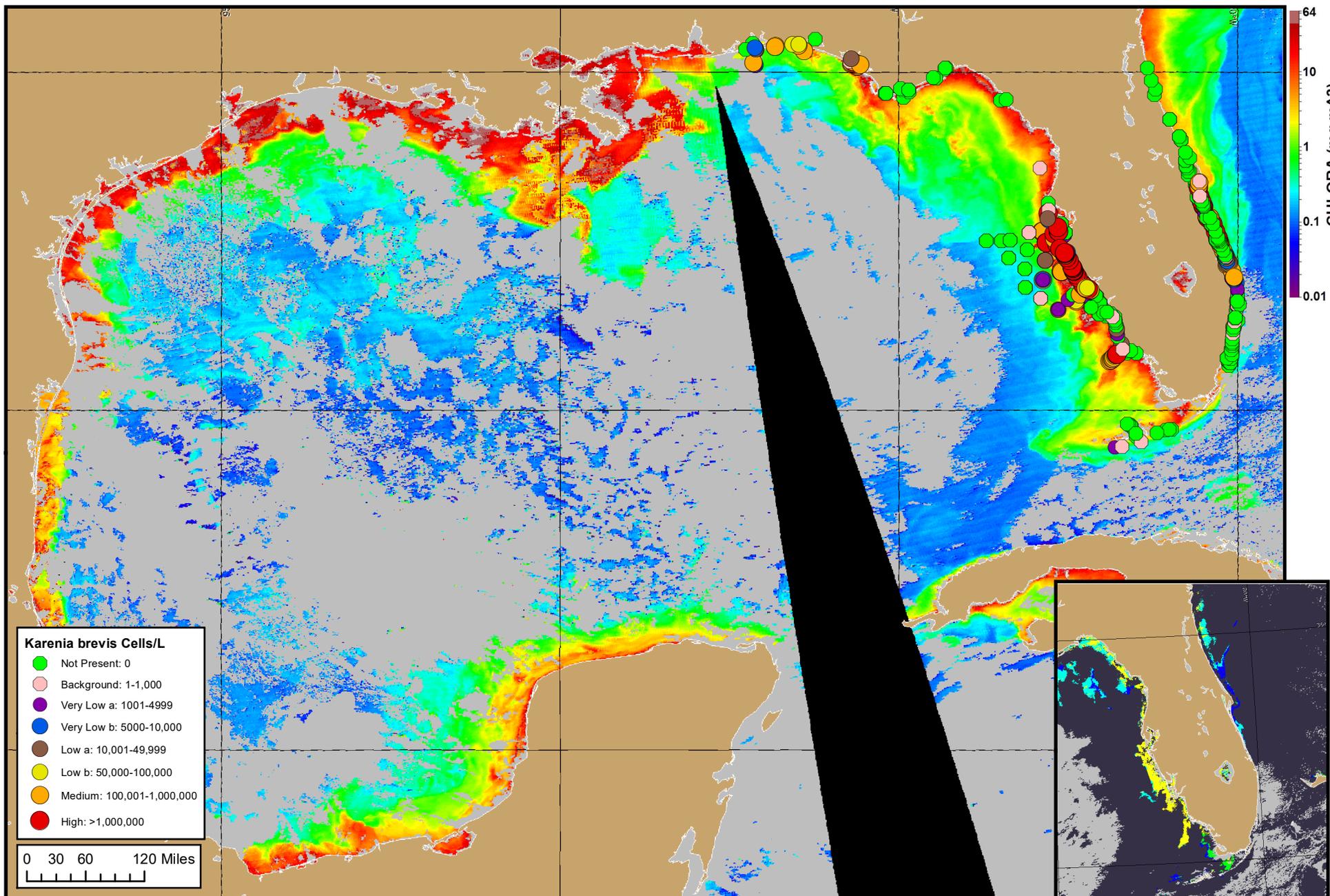
### Forecasts:

Forecast onshore and alongshore winds Friday through Tuesday (11/2-6) will increase the potential for respiratory irritation at the coast and promote the northerly transport of surface *K. brevis* concentrations.

Ludema, Davis

*Karenia brevis* cell concentration sampling data from: 10/23/18 through 11/01/18. 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](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 (10/30/18) with possible *K. brevis* HAB areas shown by red polygon(s).



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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).