



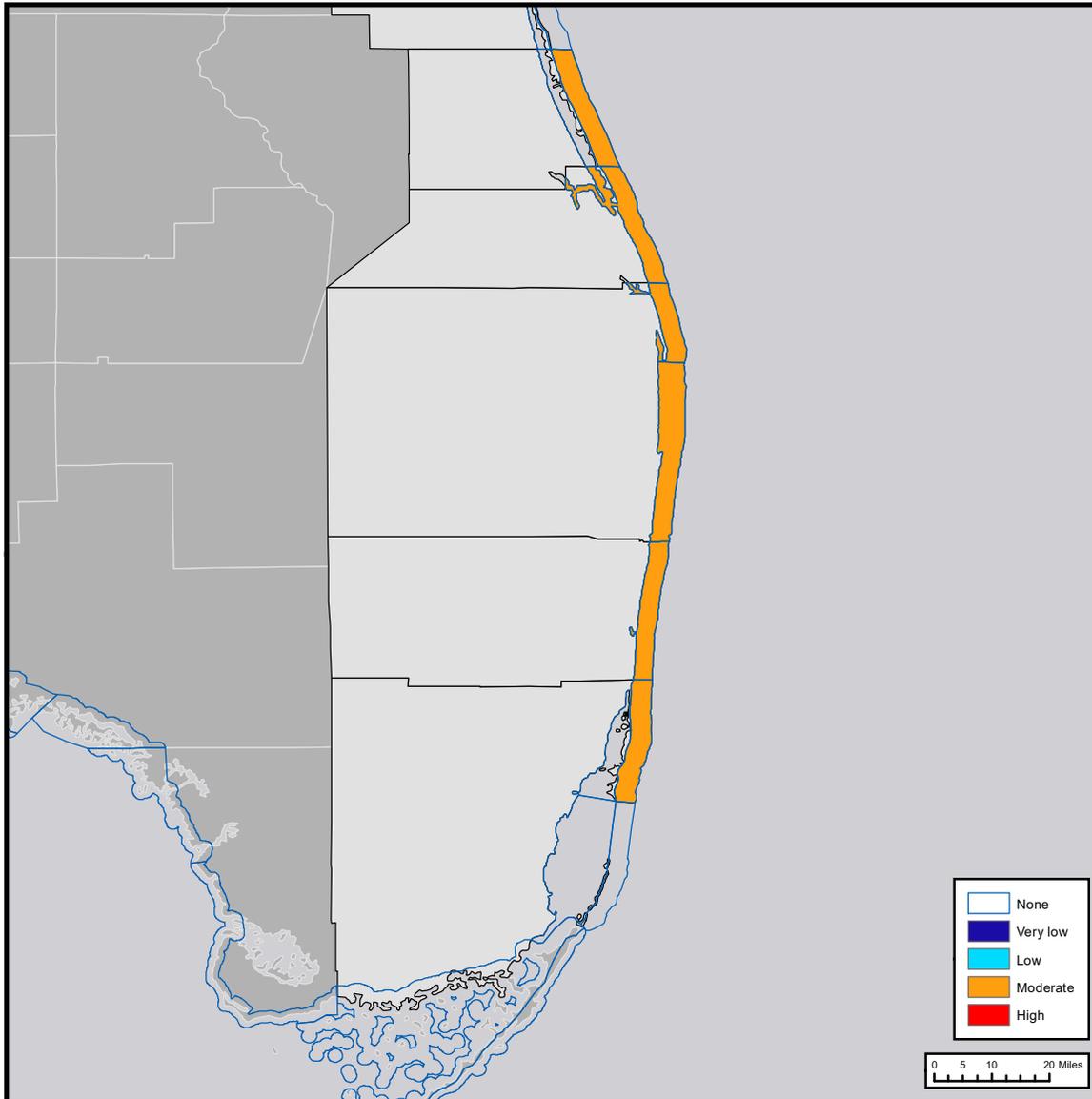
# Gulf of Mexico Harmful Algal Bloom Bulletin

Tuesday, October 9, 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 10-09-18 to 10-12-18 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:** None  
**Dead fish:** Palm Beach, Broward, Miami-Dade

### 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>

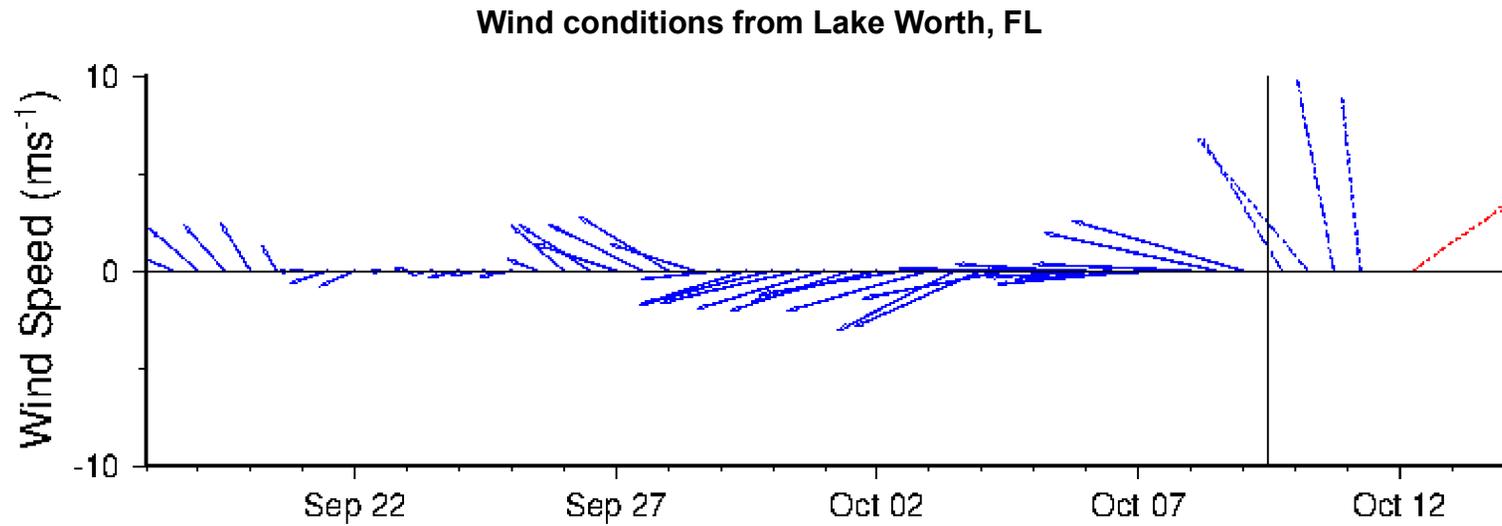
### Recent, Local Observations and Data:

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

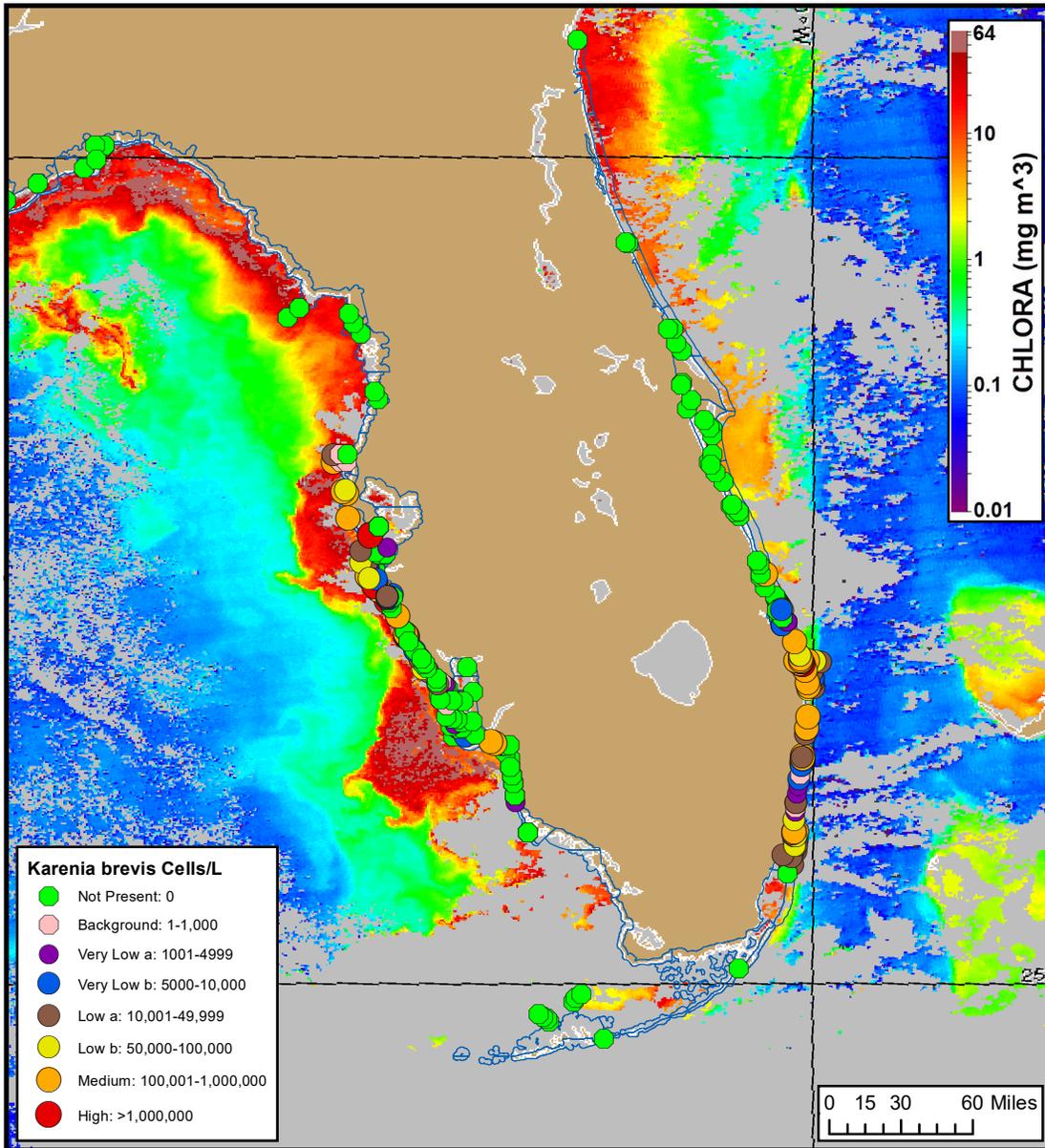
State Name	County Region	Tue 10/09	Wed 10/10	Thu 10/11	Fri 10/12			
Florida								
	NASSAU County-Coast							
	DUVAL County-Coast							
	SAINT JOHNS County-Coast							
	FLAGLER County-Coast							
	Northern VOLUSIA County-Coast							
	Northern VOLUSIA County-Bay Regions							
	Southern VOLUSIA 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							
	Southern BREVARD County-Bay Regions							
	INDIAN RIVER County-Coast							
	INDIAN RIVER County-Bay Regions							
	SAINT LUCIE County-Coast	moderate	moderate	very low	very low			
	SAINT LUCIE County-Bay Regions							
	MARTIN County-Coast	moderate	moderate	very low	very low			
	Northern PALM BEACH County-Coast	moderate	moderate	moderate	moderate			
	Southern PALM BEACH County-Coast	moderate	moderate	moderate	moderate			
	BROWARD County-Coast	moderate	moderate	moderate	moderate			
	Northern MIAMI-DADE County-Coast	moderate	moderate	moderate	moderate			
	Northern MIAMI-DADE County-Bay Regions							
	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: 09/29/18 through 10/05/18. 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 (10/06/18) 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:** 09/29-10/05  
**Source:** FWRI

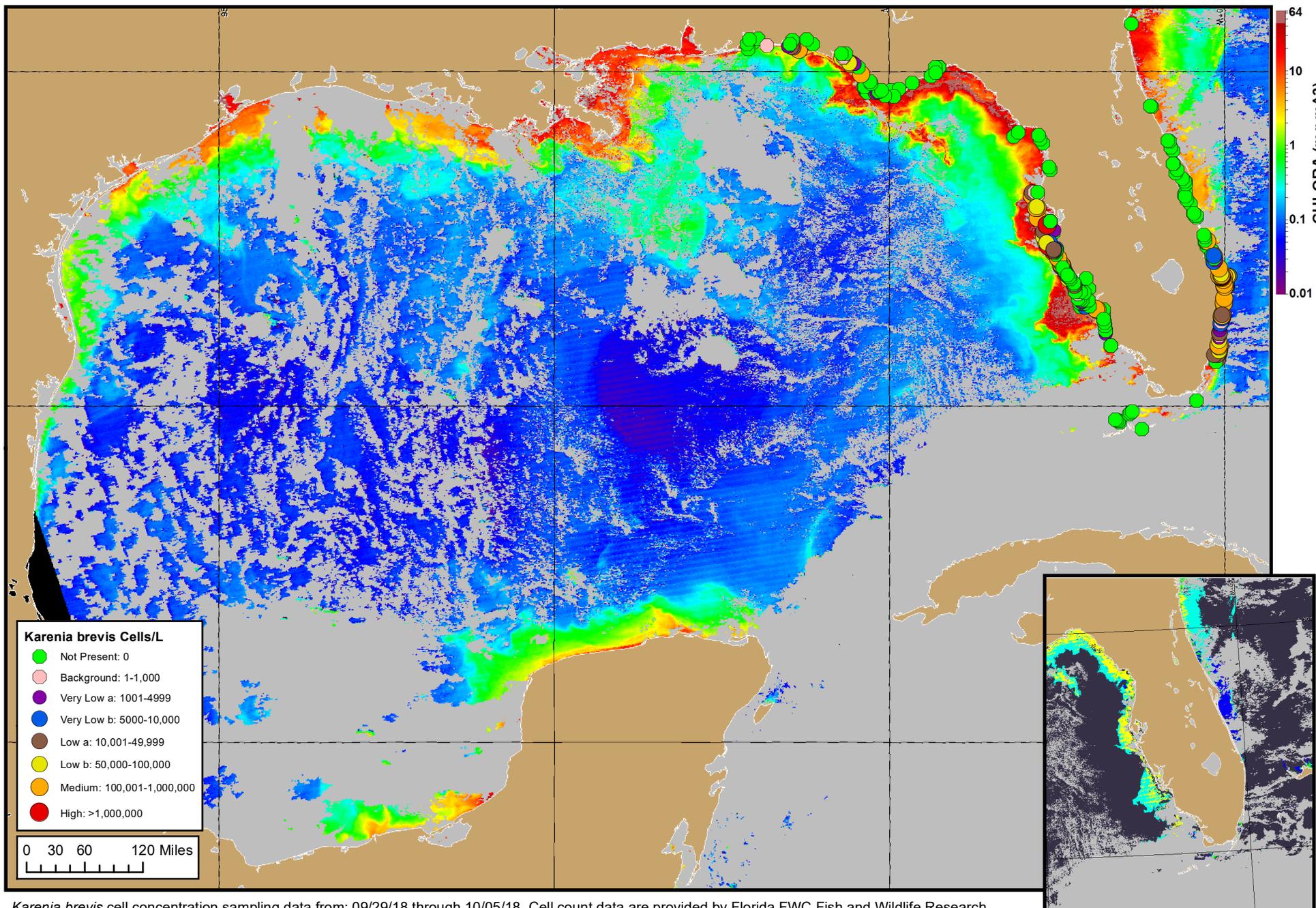
### Imagery:

Recent ensemble imagery (MODIS Aqua, 10/6) has been partially obscured by clouds along the coast from Saint Lucie to Miami-Dade counties, limiting analysis. Patches of elevated chlorophyll (2-8  $\mu\text{g/L}$ ) with some of the optical characteristics of *K. brevis* are visible extending from offshore Martin County to Brevard County, and at the mouth of Biscayne Bay in Miami-Dade County.

### Forecasts:

Forecast winds and currents today through Friday (10/9-12) will promote the potential for northerly transport of surface *K. brevis* and may increase the potential for respiratory irritation at the coast.

Ludema, Davis



*Karenia brevis* cell concentration sampling data from: 09/29/18 through 10/05/18. 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 (10/06/18).

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