



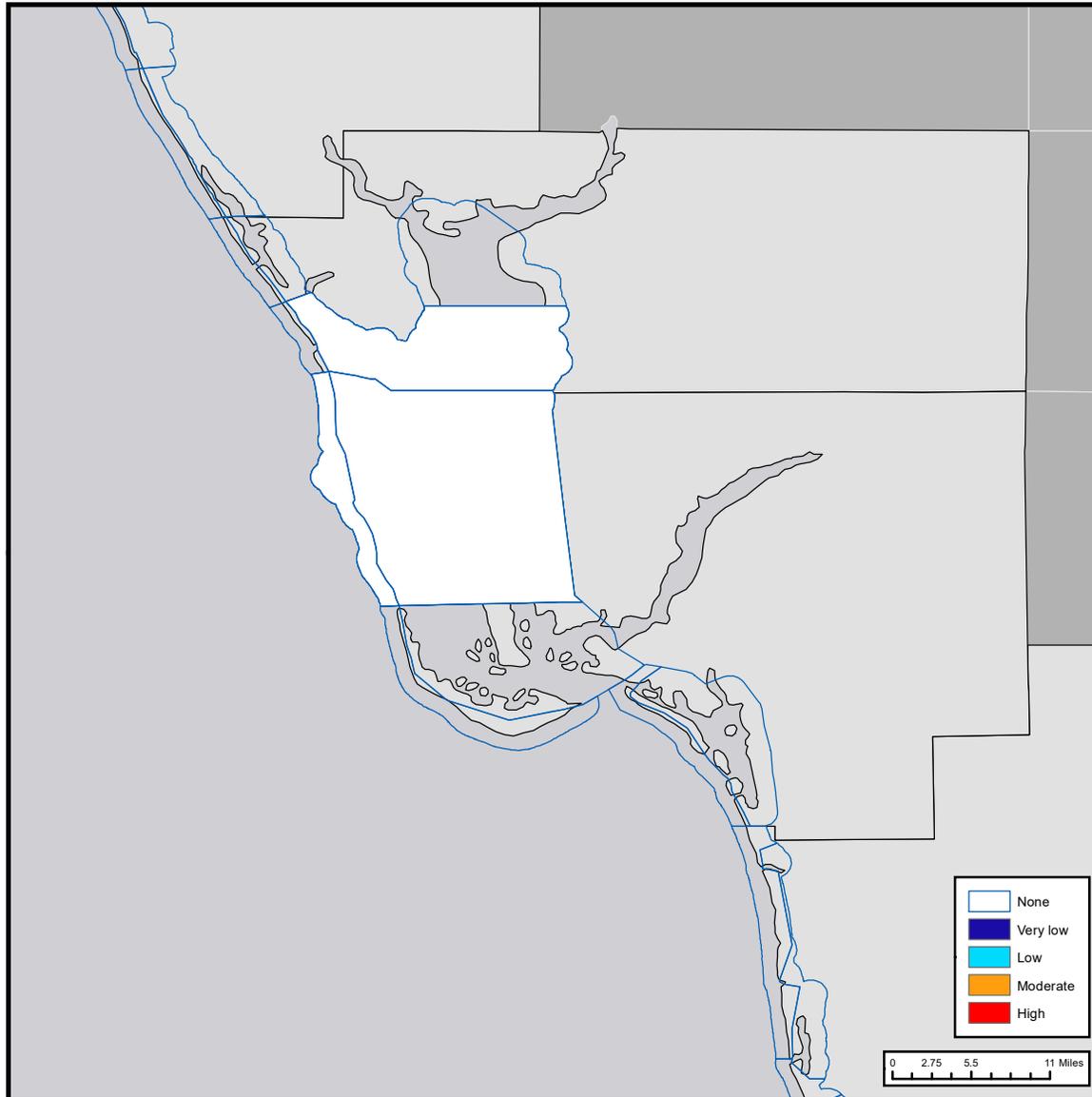
# Gulf of Mexico Harmful Algal Bloom Bulletin

Thursday, December 26, 2019  
 NOAA National Ocean Service  
 NOAA Satellite and Information Service  
 NOAA National Weather Service

## Region: Southwest 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 12-26-19 to 12-30-19 displaying the highest level of potential respiratory irritation forecasts in each region.

## Conditions Report

Not present to very low concentrations of *Karenia brevis* (commonly known as red tide) are present along- and offshore southwest Florida and are not present in the Florida Keys. No respiratory irritation associated with *K. brevis* is expected in this region.

### Recently Reported Impacts (Listed by County):

**Respiratory irritation:** None  
**Dead fish:** None

### 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/harmful-algae-blooms/index.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	Thu 12/26	Fri 12/27	Sat 12/28	Sun 12/29	Mon 12/30		
Florida								
	DIXIE County-Gulf Coast							
	LEVY County-Gulf Coast							
	CITRUS County-Gulf Coast							
	HERNANDO County-Gulf Coast							
	Northern PASCO County-Gulf Coast							
	Southern PASCO County-Gulf Coast							
	Northern PINELLAS County-Gulf Coast							
	Northern PINELLAS County-Bay Regions							
	Northern PINELLAS County, Upper Bay Area-Bay Regions							
	Southern PINELLAS County-Gulf Coast							
	Southern PINELLAS County-Bay Regions							
	PINELLAS and Northern MANATEE County-Bay Regions							
	South MANATEE County-Gulf Coast							
	South MANATEE County-Bay Regions							
	North SARASOTA County-Gulf Coast							
	North SARASOTA County-Bay Regions							
	Southern SARASOTA County-Gulf Coast							
	Southern SARASOTA County-Bay Regions							
	North CHARLOTTE County-Gulf Coast							
	North CHARLOTTE County-Bay Regions							
	Southern CHARLOTTE County-Gulf Coast							
	Southern CHARLOTTE County-Bay Regions	none	none	none	none	none		
	Upper CHARLOTTE Harbor-Bay Regions							
	Northern LEE County-Gulf Coast	none	none	none	none	none		
	Northern LEE County-Bay Regions	none	none	none	none	none		
	Central LEE County-Gulf Coast							

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.

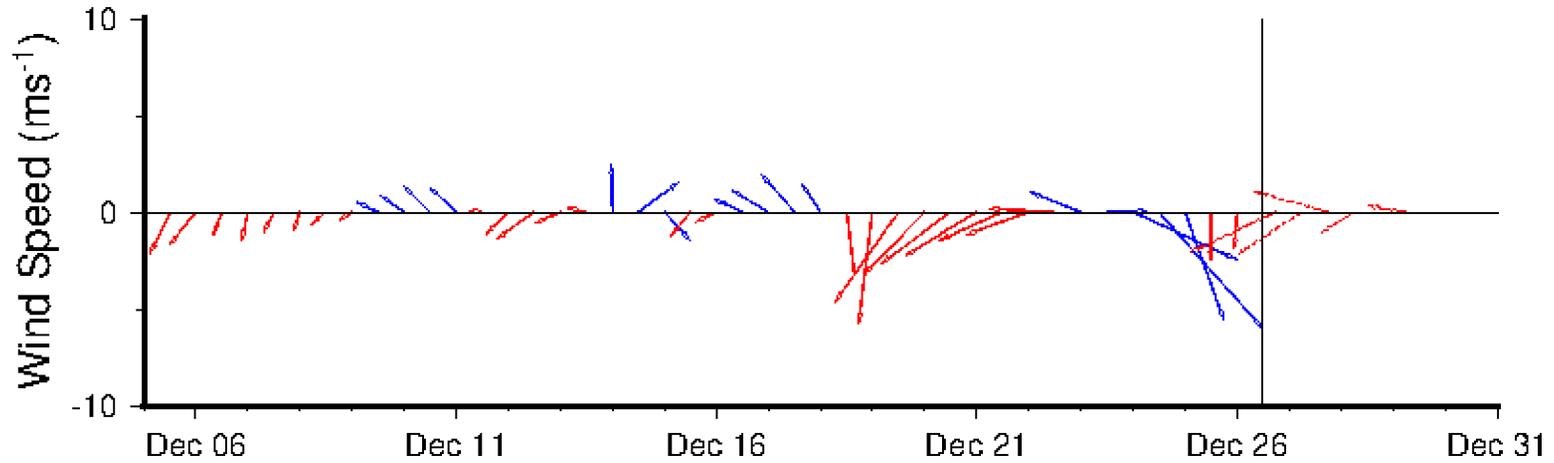
Cells are marked 'none' if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.

State Name	County Region	Thu 12/26	Fri 12/27	Sat 12/28	Sun 12/29	Mon 12/30		
Florida								
	Central LEE County-Bay Regions							
	Southern LEE County-Gulf Coast							
	Southern LEE County-Bay Regions							
	Northern COLLIER County-Gulf Coast							
	Northern COLLIER County-Bay Regions							
	Central COLLIER County-Gulf Coast							
	Central COLLIER County-Bay Regions							
	Southern COLLIER County-Gulf Coast							
	Northern MONROE County-Gulf Coast							
	Southern MONROE County-Gulf Coast							
	UPPER KEYS-Oceanside							
	UPPER KEYS and FLORIDA BAY-Gulfside							
	MIDDLE KEYS-Oceanside							
	MIDDLE KEYS-Gulfside							
	LOWER KEYS-Oceanside							
	LOWER KEYS-Gulfside							

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.

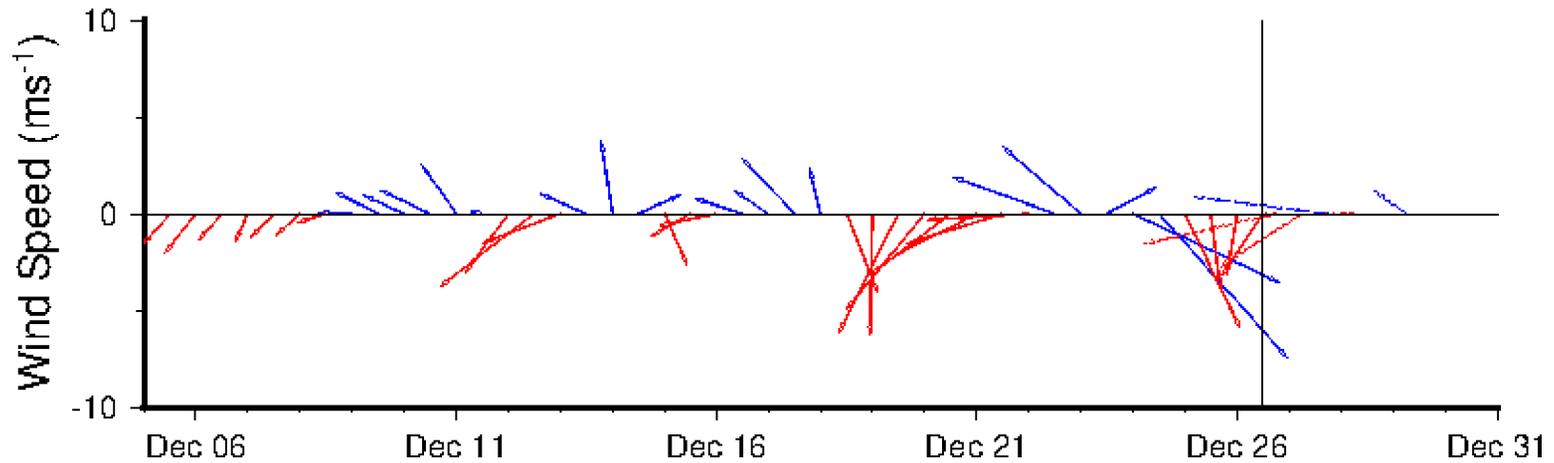
Cells are marked 'none' if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.

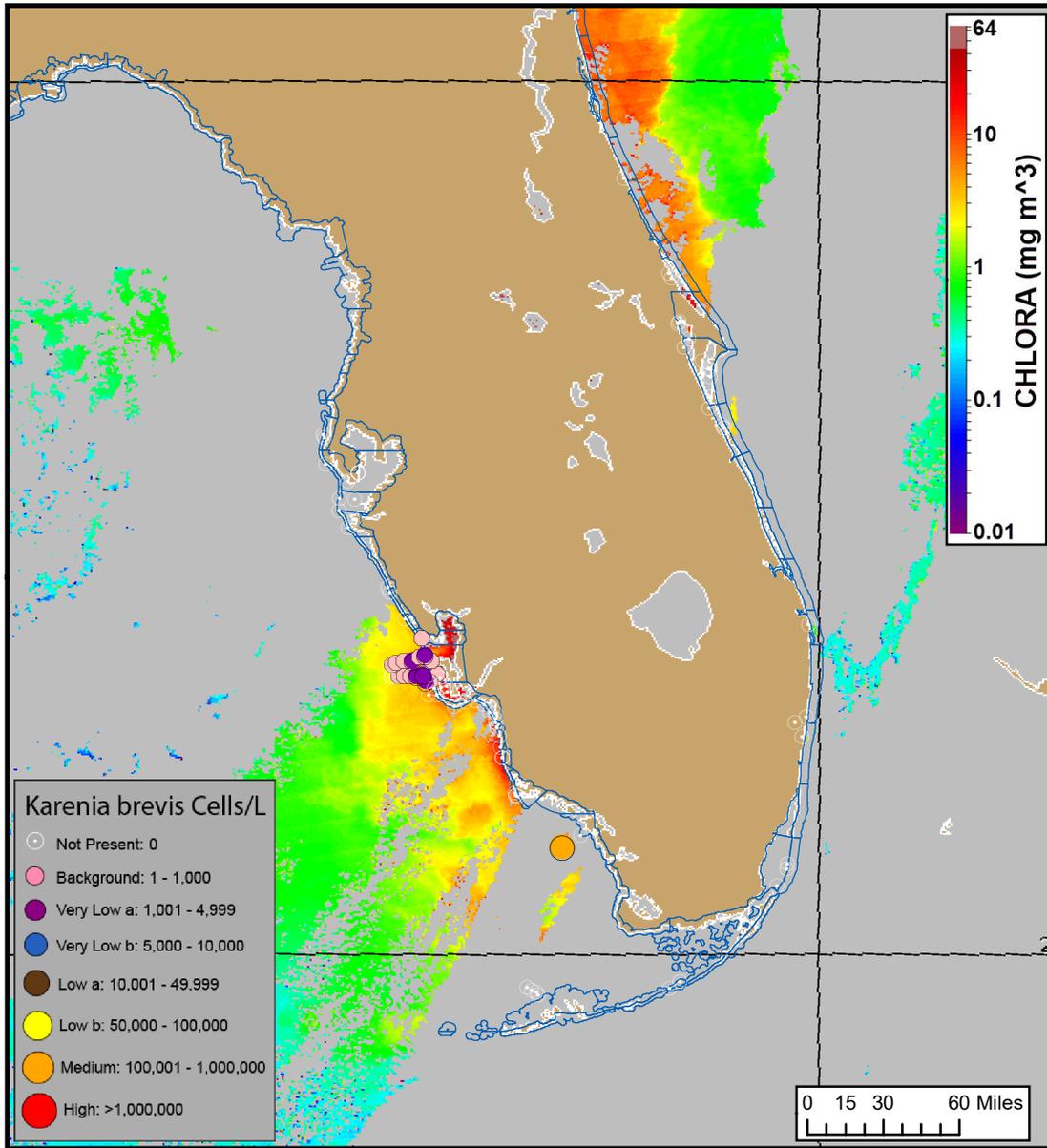
**Wind conditions from Naples, FL**



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 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://www.weather.gov/marine/sttheastmz>.

**Wind conditions from Venice Pier, FL**





## Analysis

### Summary of Recent Water Samples:

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

**Range:** Not Present through Medium

**Date:** 12/16-12/23

**Source:** FWRI, MML, SCHD, CCPCD

### Imagery:

Recent MODIS Aqua ensemble imagery from 12/23 has been partially obscured by clouds, limiting analysis. Elevated to high chlorophyll (2 to 15  $\mu\text{g/L}$ ) is shown in southwest Florida from upper Charlotte to southern Collier counties. There is no anomalous chlorophyll containing the optical characteristics of *K. brevis* in recent imagery.

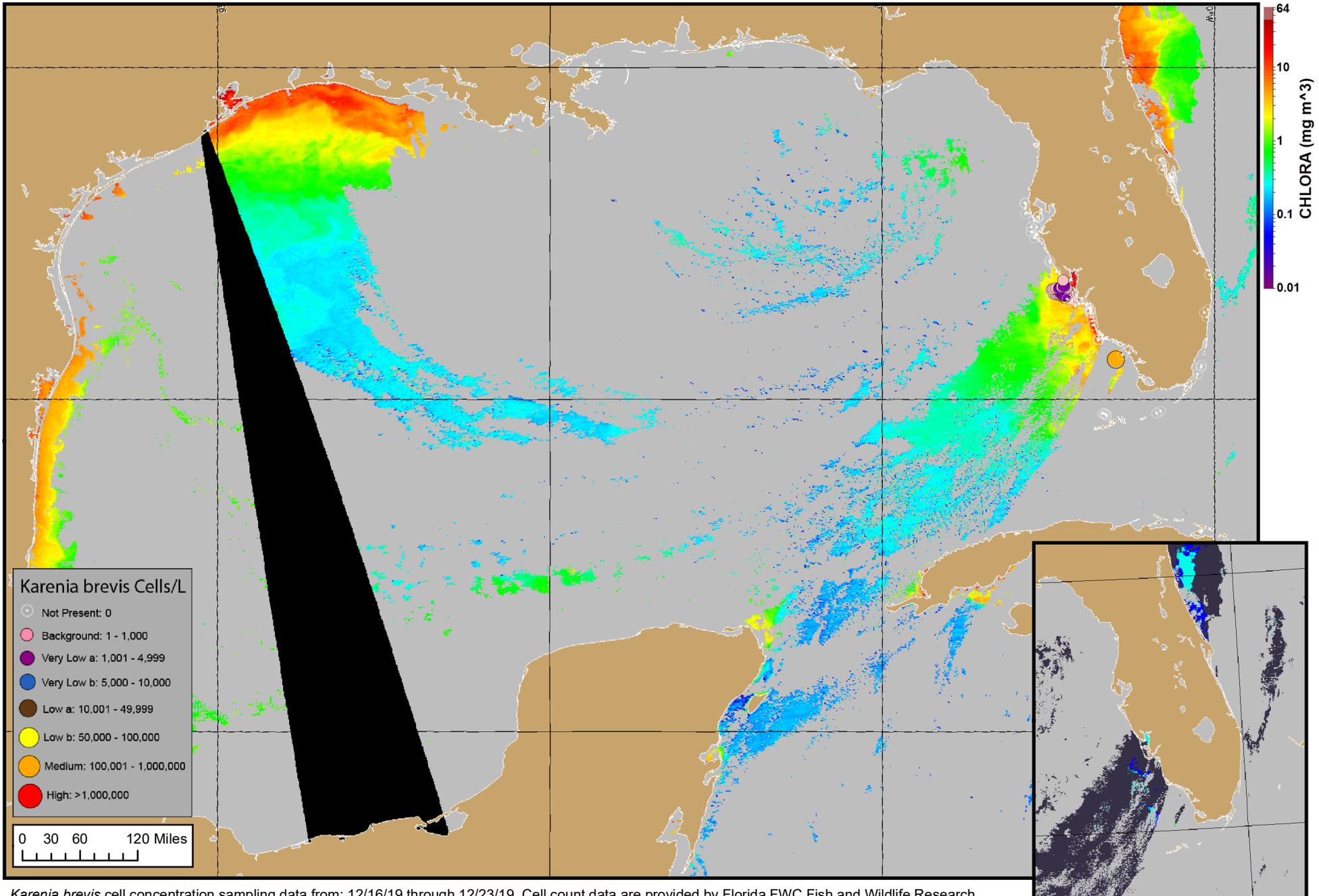
### Forecasts:

Variable winds (10-15 kn) forecast today through Monday (12/26-30), will promote northward transport of any remaining surface *K. brevis* concentrations.

Jima, Davis

*Karenia brevis* cell concentration sampling data from: 12/16/19 through 12/23/19. 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 (12/23/19) with possible *K. brevis* HAB areas shown by red polygon(s).



*Karenia brevis* cell concentration sampling data from: 12/16/19 through 12/23/19. 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 (12/23/19).

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