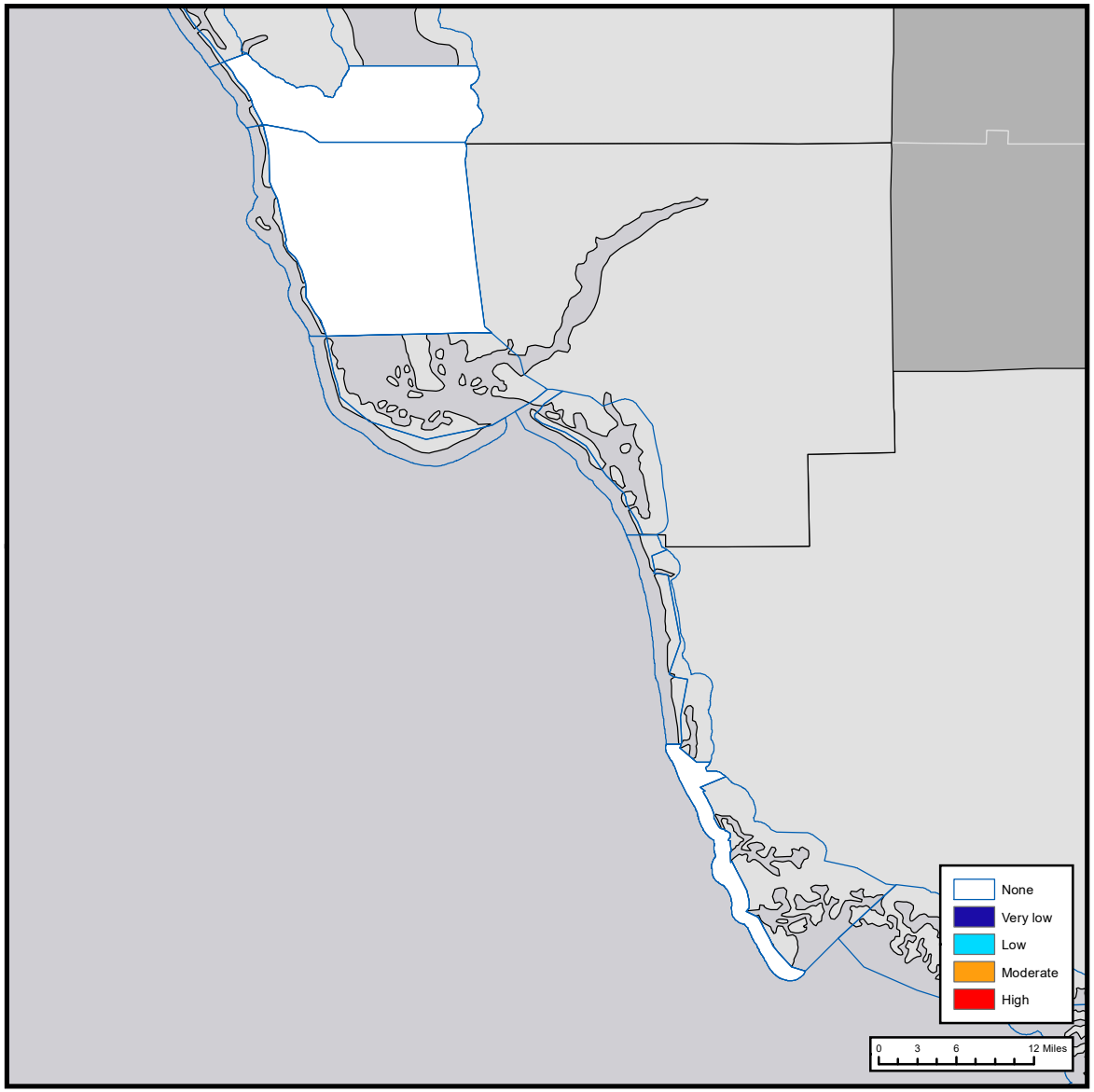
# Gulf of Mexico Harmful Algal Bloom Bulletin

Monday, December 23, 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 12-23-19 to 12-26-19 displaying the highest level of potential respiratory irritation forecasts in each region.

## Conditions Report

Not present to background concentrations of *Karenia brevis* (commonly known as red tide) are present alongshore southwest Florida, were detected in medium concentration offshore portions of 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.*

| | AFFECTED POPULATION | | | | |
|---|---|---|---|---|---|
| **RESPIRATORY IRRITATION LEVEL** | 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 | Mon 12/23 | Tue 12/24 | Wed 12/25 | Thu 12/26 | | | |
|---|---|---|---|---|---|---|---|---|
| **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 | | | |
| | **Upper CHARLOTTE Harbor-Bay Regions** | | | | | | | |
| | **Northern LEE County-Gulf Coast** | | | | | | | |
| | **Northern LEE County-Bay Regions** | 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 | Mon 12/23 | Tue 12/24 | Wed 12/25 | Thu 12/26 | | | |
|---|---|---|---|---|---|---|---|---|
| **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** | none | none | none | none | | | |
| | **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.

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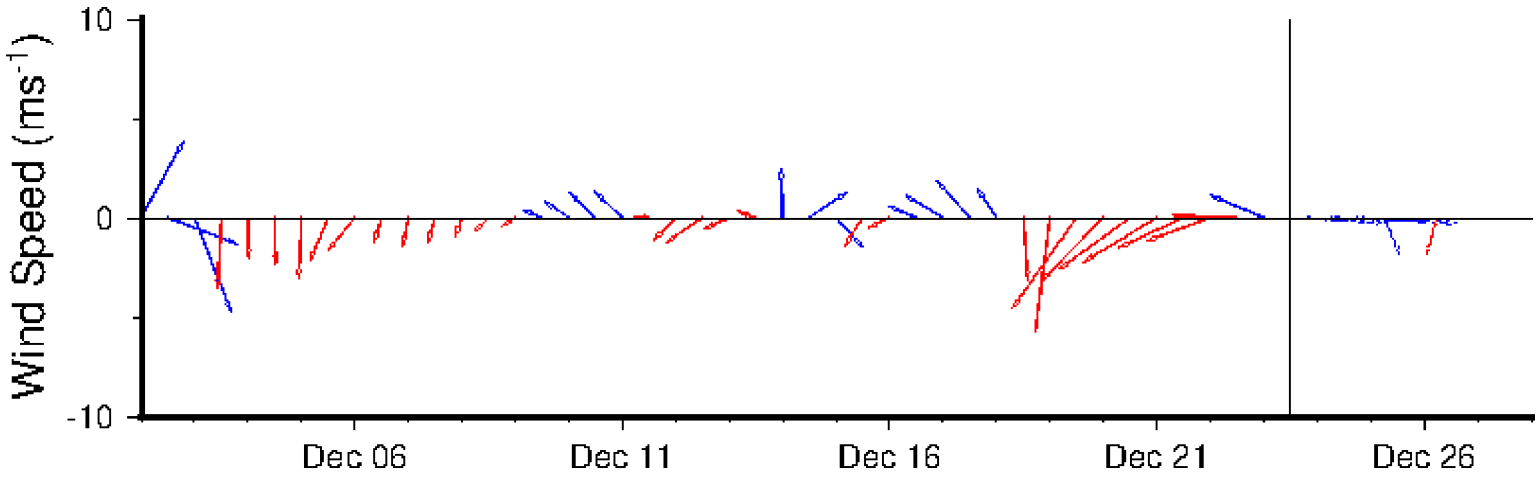
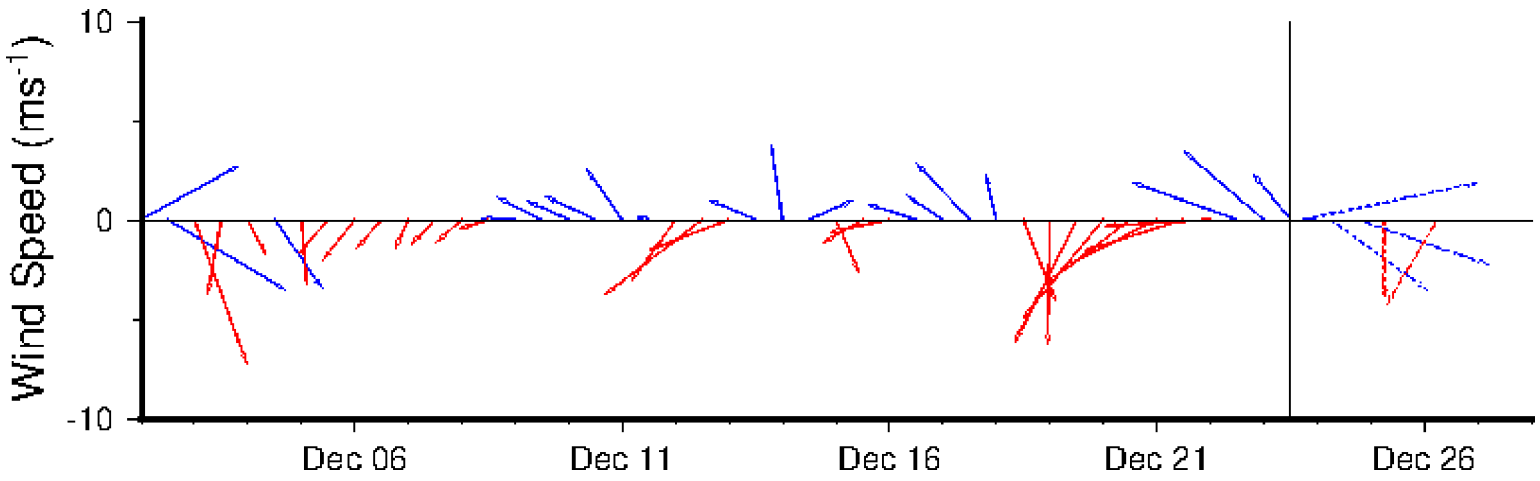
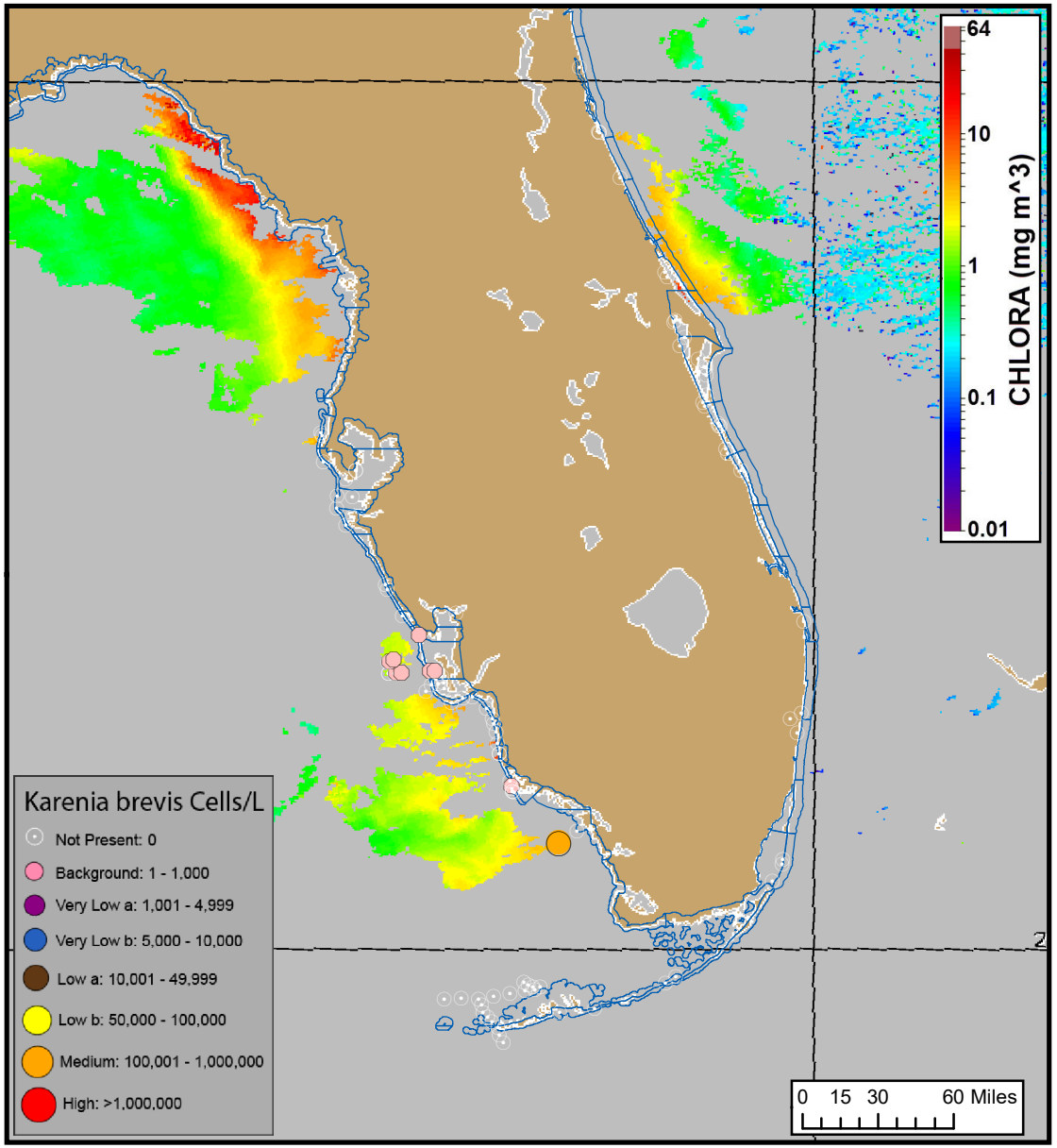
## Wind conditions from Naples, FL




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/stheastmz.

## Wind conditions from Venice Pier, FL






*Karenia brevis* cell concentration sampling data from: 12/13/19 through 12/19/19. 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. Detailed sample information can be obtained through the Florida FWC Fish and Wildlife Research Institute: http://myfwc.com/REDTIDESTATUS.

MODIS Aqua satellite chlorophyll image (12/20/19) 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:** 12/13-12/19
**Source:** FWRI, MML, SCHD, CCPCD

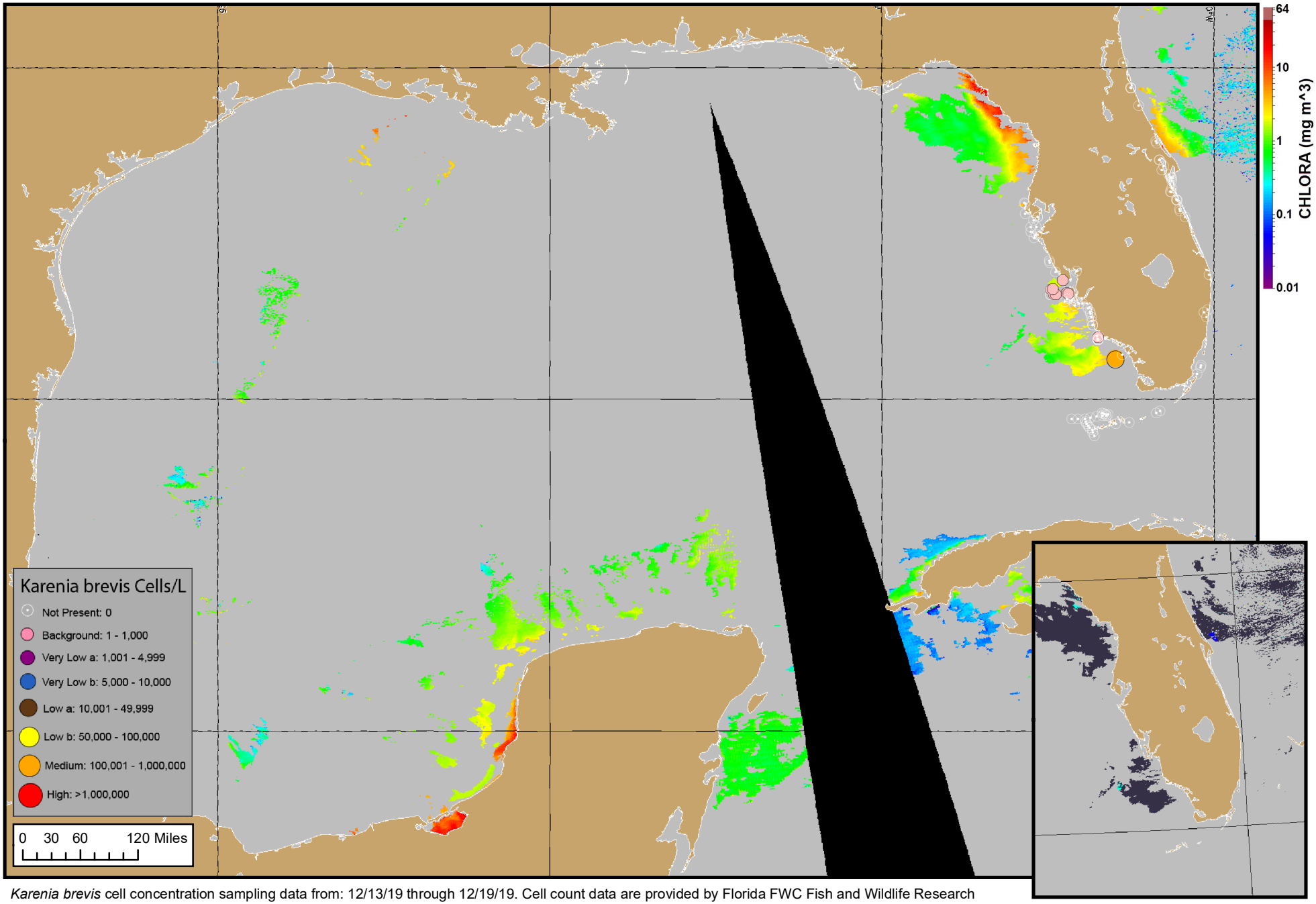
Imagery:

Recent ensemble imagery has been obscured by clouds, preventing analysis. MODIS Aqua imagery from 12/20 shows elevated chlorophyll (2 to 5 µg/L) offshore of southwest Florida from northern Lee to Monroe counties. There is no anomalous chlorophyll containing the optical characteristics of *K. brevis* in recent imagery.

Forecasts:

Northerly winds (5-20 kn) forecast today through Wednesday (12/23-25) will promote southward transport of any remaining surface *K. brevis* concentrations.

Jima, Davis

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MODIS Aqua satellite chlorophyll image (12/20/19).

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