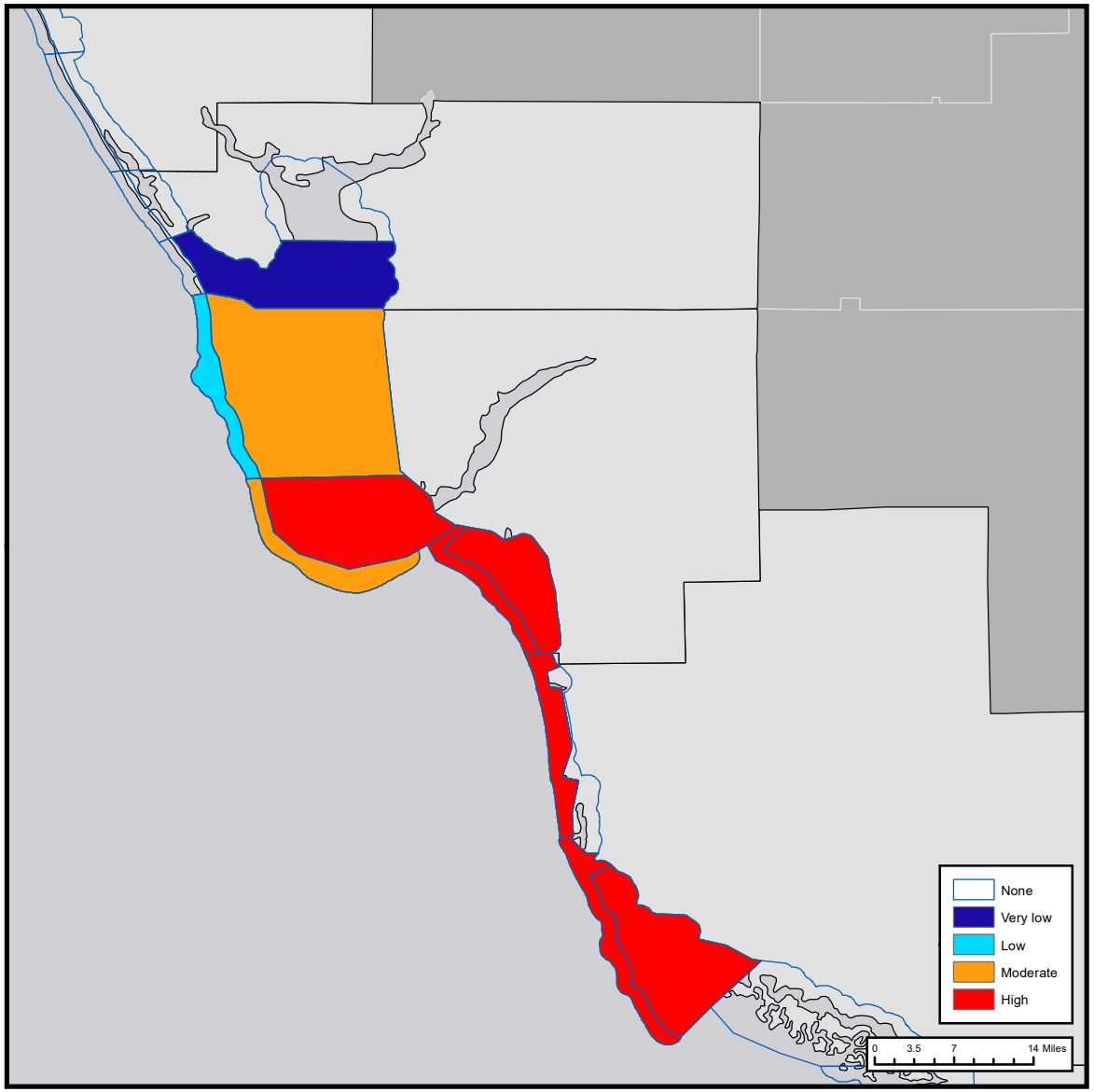
# Gulf of Mexico Harmful Algal Bloom Bulletin

Thursday, January 7, 2021
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 01-07-21 to 01-11-21 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 southwest Florida, and not present in the Florida Keys. *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:** Lee, Collier
**Dead fish:** Lee, Collier

*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 | Thu 01/07 | Fri 01/08 | Sat 01/09 | Sun 01/10 | Mon 01/11 | | |
|---|---|---|---|---|---|---|---|---|
| **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** | very low | very low | very low | very low | very low | | |
| | **Upper CHARLOTTE Harbor-Bay Regions** | | | | | | | |
| | **Northern LEE County-Gulf Coast** | low | low | low | low | low | | |
| | **Northern LEE County-Bay Regions** | moderate | moderate | moderate | moderate | moderate | | |
| | **Central LEE County-Gulf Coast** | moderate | high | moderate | low | low | | |

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 01/07 | Fri 01/08 | Sat 01/09 | Sun 01/10 | Mon 01/11 | | |
|---|---|---|---|---|---|---|---|---|
| **Florida** | | | | | | | | |
| | **Central LEE County-Bay Regions** | high | high | moderate | moderate | moderate | | |
| | **Southern LEE County-Gulf Coast** | high | high | high | moderate | moderate | | |
| | **Southern LEE County-Bay Regions** | high | high | moderate | moderate | moderate | | |
| | **Northern COLLIER County-Gulf Coast** | high | high | high | low | low | | |
| | **Northern COLLIER County-Bay Regions** | | | | | | | |
| | **Central COLLIER County-Gulf Coast** | high | high | high | low | low | | |
| | **Central COLLIER County-Bay Regions** | high | high | moderate | moderate | moderate | | |
| | **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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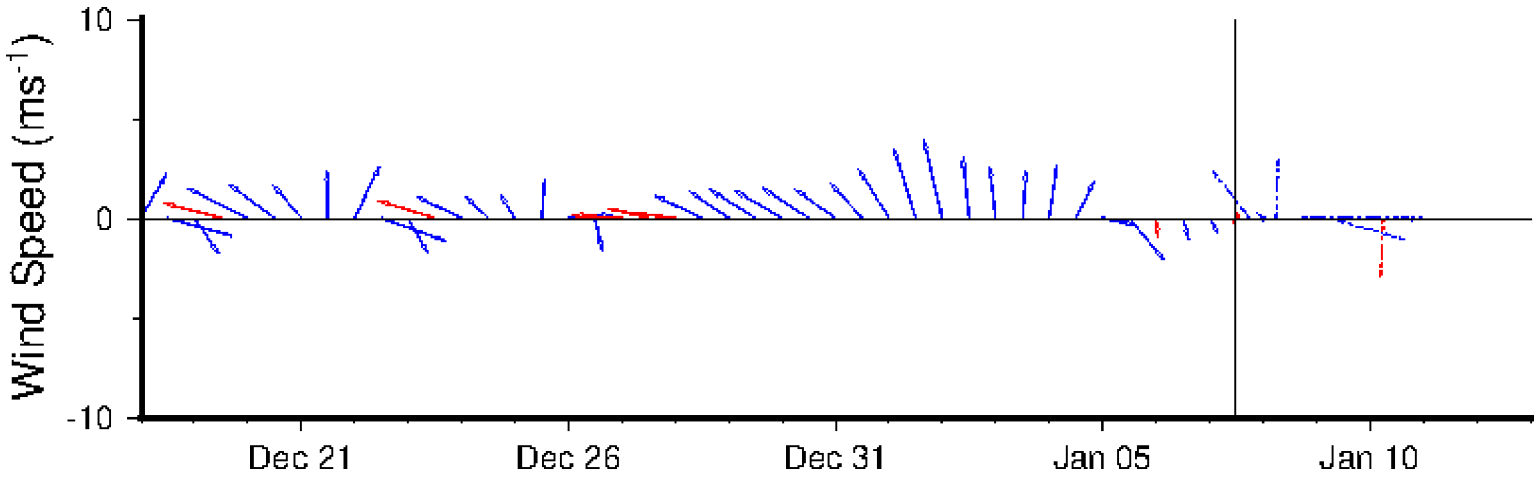
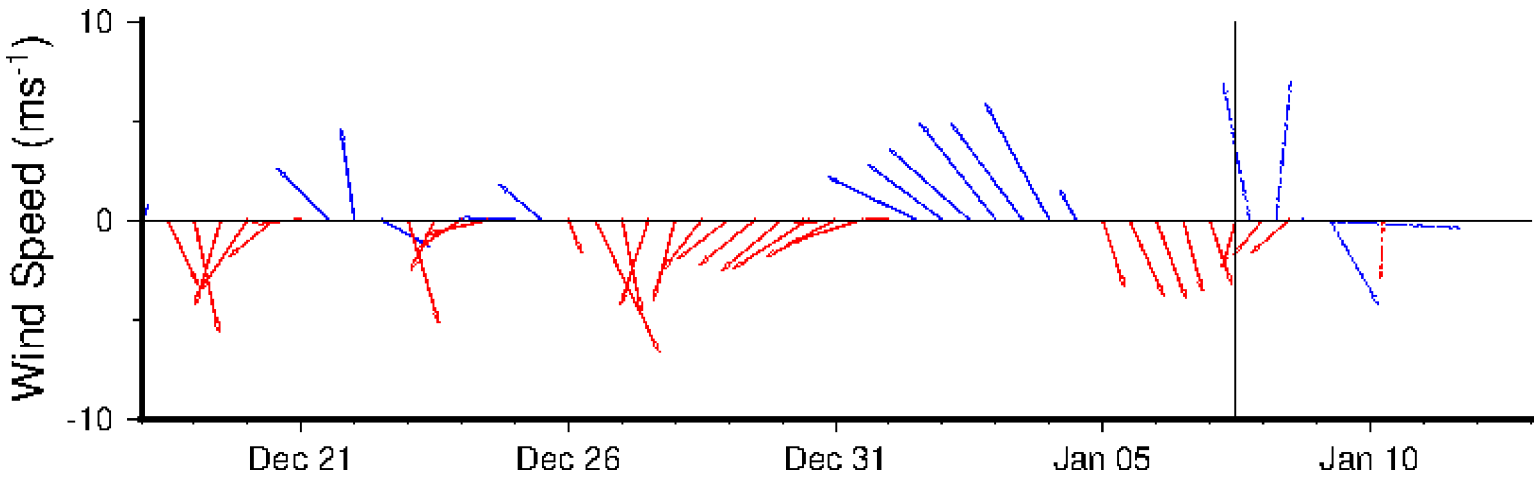
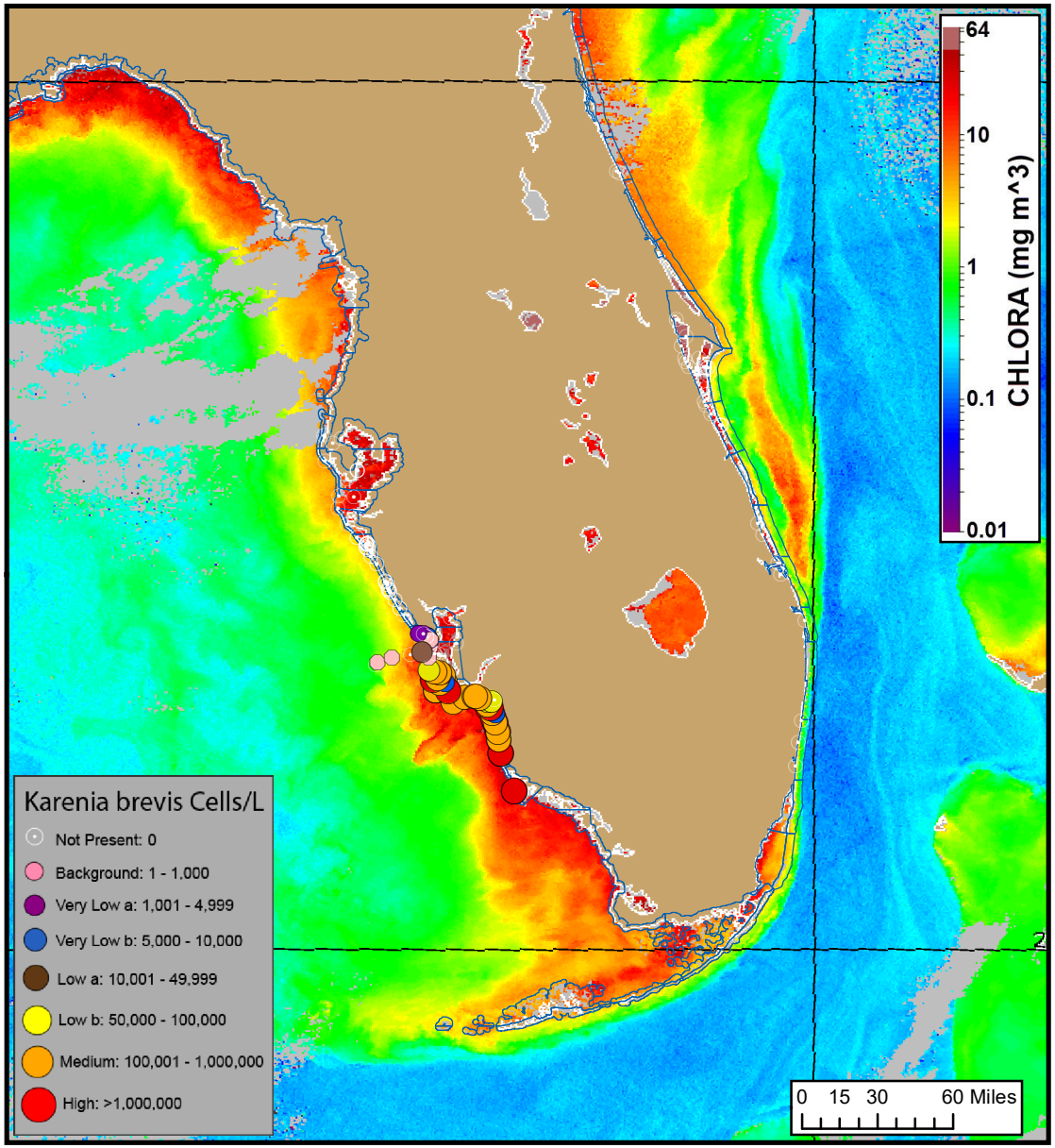
## Wind conditions from Naples, FL




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: 12/28/20 through 01/05/21. 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.

VIIRS satellite chlorophyll image (01/05/21) 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 High
**Date:** 12/28-01/05
**Source:** FWRI, MML, SCHD, CCPCD

Imagery:

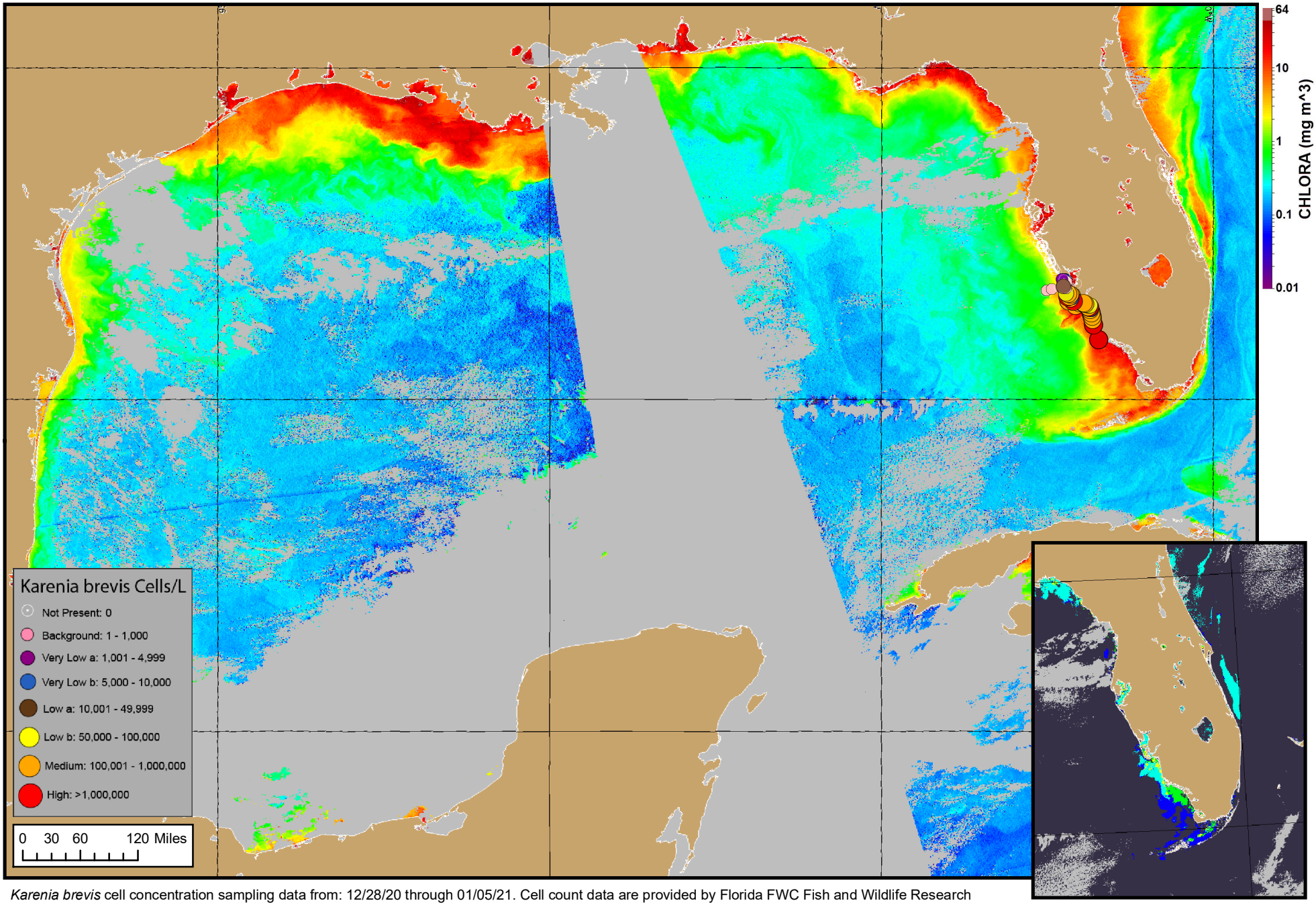
Recent satellite imagery (VIIRS, 1/5) continues to show very high chlorophyll (2 to >20 µg/L) is present alongshore southwest Florida. An anomaly with the optical characteristics of *K. brevis* is visible along- and extending up to 20 miles southwest from Sanibel Island in central Lee County, and up to 22 miles south of Marco Island in central Collier County.

Forecasts:

Along- and onshore winds forecast today through Saturday (1/7-9) will promote respiratory irritation at the coast. Winds forecast Friday through Sunday (1/8-10) will promote southward transport of surface *K. brevis* concentrations.

Additional satellite imagery available here: https://tidesandcurrents.noaa.gov/hab/gomx/data/Imagery-EasternGOMX/

-Davis, Keeney

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VIIRS satellite chlorophyll image (01/05/21).

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