



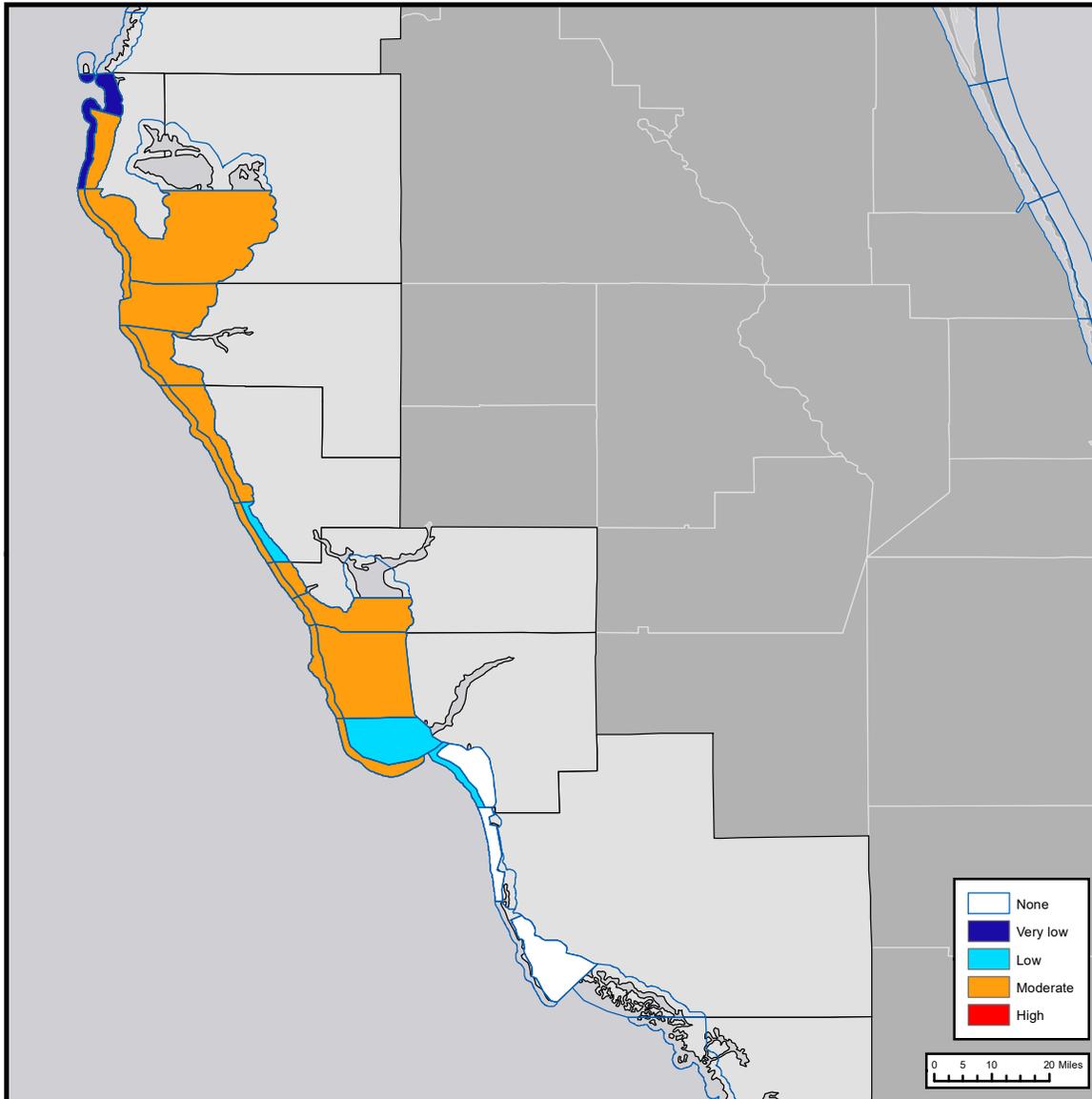
Gulf of Mexico Harmful Algal Bloom Bulletin

Tuesday, November 13, 2018
 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 11-13-18 to 11-15-18 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 southwest 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: Pinellas, Manatee, Sarasota
Dead fish: Pinellas, Manatee, Sarasota

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 11/13 | Wed 11/14 | Thu 11/15 | | | | |
|------------|--|-----------|-----------|-----------|--|--|--|--|
| 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 | very low | moderate | moderate | | | | |
| | Northern PINELLAS County-Bay Regions | moderate | moderate | moderate | | | | |
| | Northern PINELLAS County, Upper Bay Area-Bay Regions | | | | | | | |
| | Southern PINELLAS County-Gulf Coast | moderate | moderate | moderate | | | | |
| | Southern PINELLAS County-Bay Regions | moderate | moderate | moderate | | | | |
| | PINELLAS and Northern MANATEE County-Bay Regions | moderate | moderate | moderate | | | | |
| | South MANATEE County-Gulf Coast | moderate | moderate | moderate | | | | |
| | South MANATEE County-Bay Regions | moderate | moderate | moderate | | | | |
| | North SARASOTA County-Gulf Coast | moderate | moderate | moderate | | | | |
| | North SARASOTA County-Bay Regions | moderate | moderate | moderate | | | | |
| | Southern SARASOTA County-Gulf Coast | moderate | moderate | low | | | | |
| | Southern SARASOTA County-Bay Regions | low | low | low | | | | |
| | North CHARLOTTE County-Gulf Coast | moderate | moderate | very low | | | | |
| | North CHARLOTTE County-Bay Regions | moderate | moderate | moderate | | | | |
| | Southern CHARLOTTE County-Gulf Coast | moderate | moderate | low | | | | |
| | Southern CHARLOTTE County-Bay Regions | moderate | moderate | moderate | | | | |
| | Upper CHARLOTTE Harbor-Bay Regions | | | | | | | |
| | Northern LEE County-Gulf Coast | moderate | moderate | low | | | | |
| | Northern LEE County-Bay Regions | moderate | moderate | moderate | | | | |
| | Central LEE County-Gulf Coast | 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.

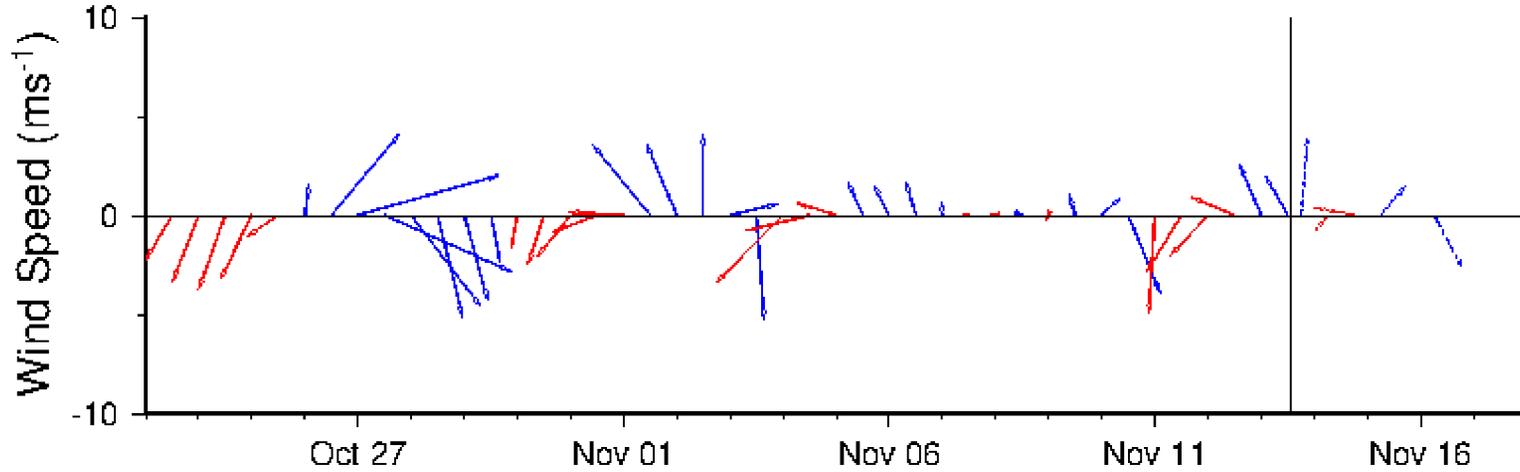
Cells are marked 'none' if *K. brevis* was detected, but no respiratory irritation is forecasted in the region. Cells are blank if no *K. brevis* has been detected in the region.

| State Name | County Region | Tue 11/13 | Wed 11/14 | Thu 11/15 | | | | |
|------------|-------------------------------------|-----------|-----------|-----------|--|--|--|--|
| Florida | | | | | | | | |
| | Central LEE County-Bay Regions | low | low | low | | | | |
| | Southern LEE County-Gulf Coast | low | very low | very low | | | | |
| | Southern LEE County-Bay Regions | none | none | none | | | | |
| | Northern COLLIER County-Gulf Coast | none | none | none | | | | |
| | Northern COLLIER County-Bay Regions | | | | | | | |
| | Central COLLIER County-Gulf Coast | | | | | | | |
| | Central COLLIER County-Bay Regions | none | none | none | | | | |
| | 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 | | | | | | | |

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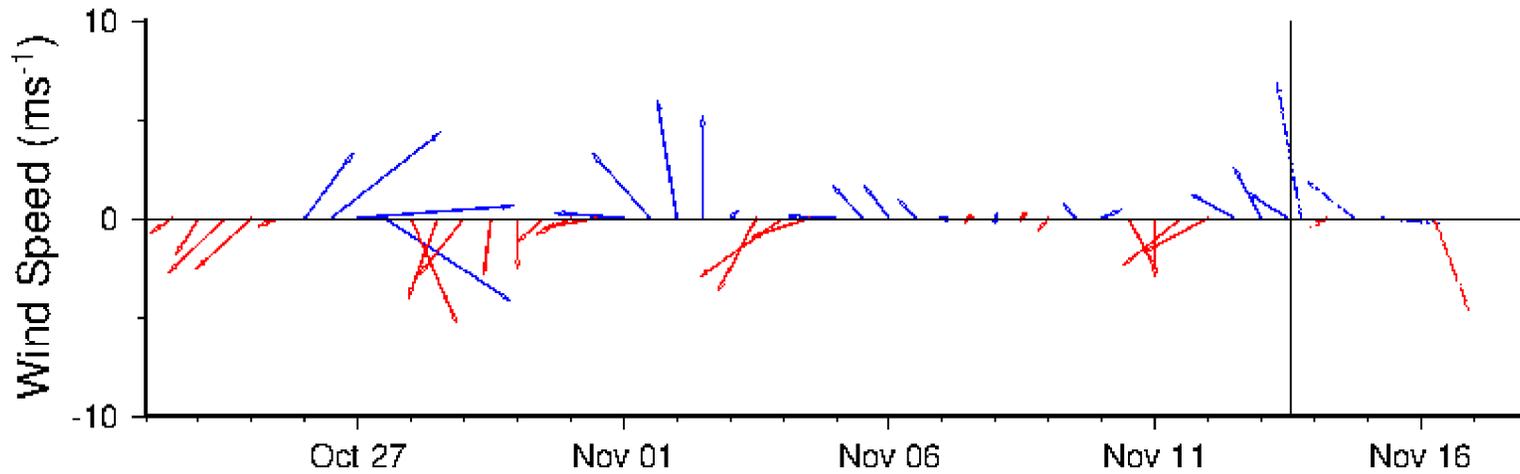
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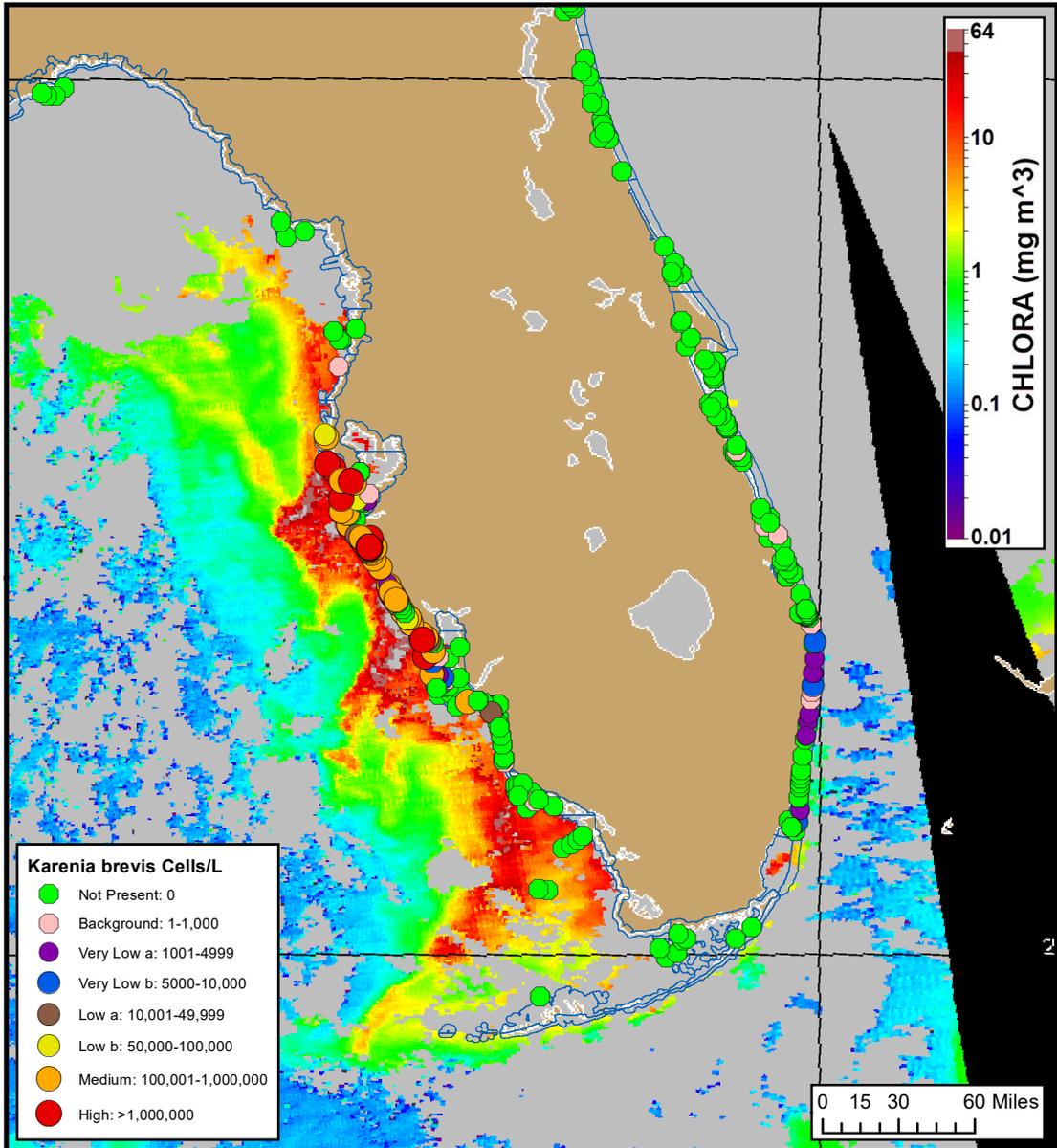
Wind conditions from Clearwater Beach, FL



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/xnx4y>.

Wind conditions from Venice Pier, FL





Karenia brevis cell concentration sampling data from: 11/03/18 through 11/12/18. 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. Detailed sample information can be obtained through the Florida FWC Fish and Wildlife Research Institute: <http://myfwc.com/REDTIDESTATUS>.

MODIS Aqua satellite chlorophyll image (11/12/18) 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 High

Date: 11/03-11/12

Source: FWRI, MML, SCHD, CCPCD

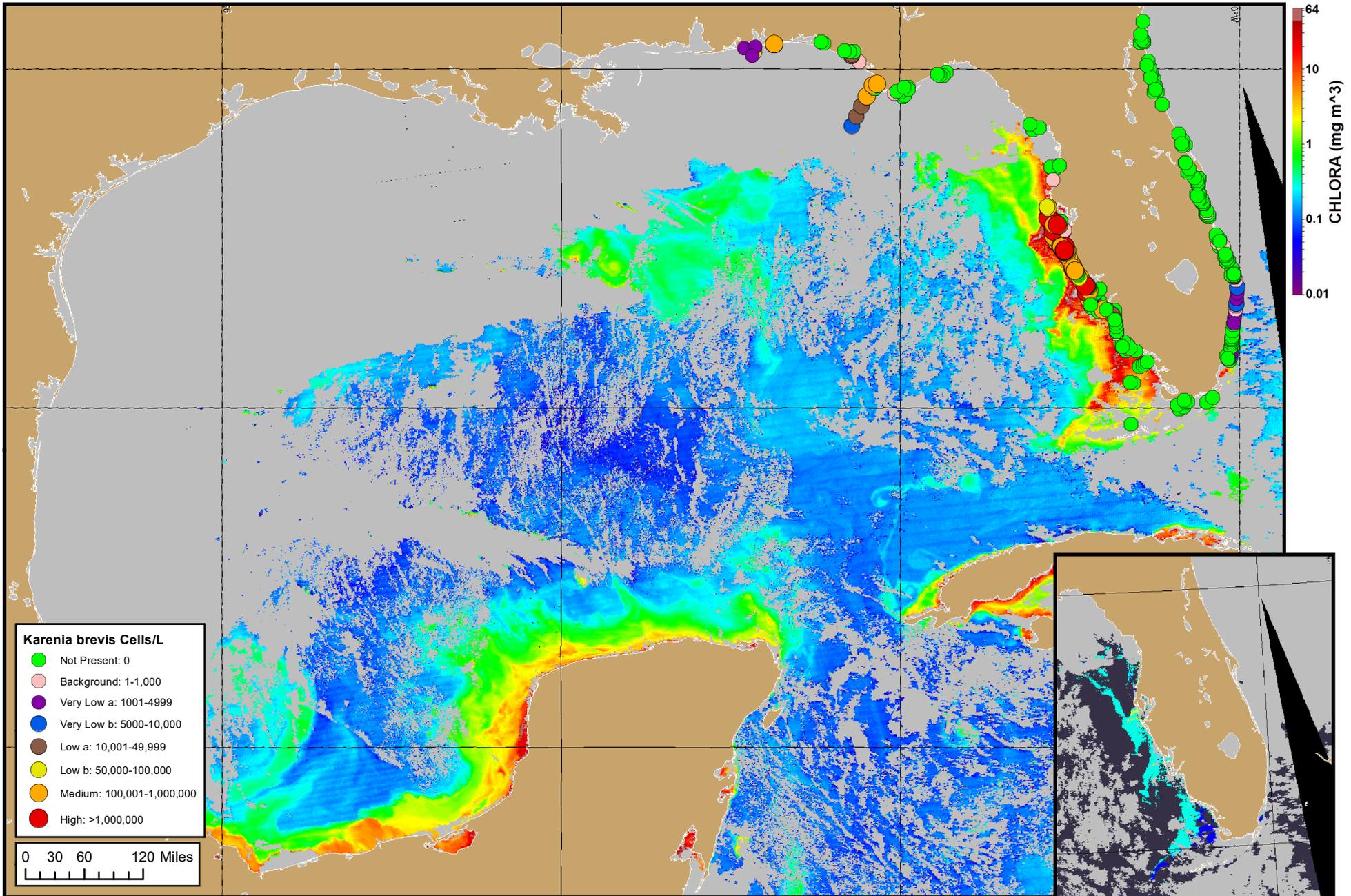
Imagery:

In recent ensemble imagery (MODIS Aqua, 11/12), patches of elevated to very high chlorophyll (2 to >20 $\mu\text{g/L}$) with some optical characteristics of *K. brevis* are visible along- and offshore Pinellas to Collier counties. The anomaly can be seen extending southwest from Collier County to Loggerhead Key.

Forecasts:

Winds forecast today through Wednesday (11/13-14) may increase the potential for respiratory irritation at the coast of southwest Florida and promote the potential for southward transport of surface *K. brevis* concentrations.

Yang, Davis



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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).