Conditions Report

Not present to medium concentrations of *Karenia brevis* (commonly known as red tide) are present along- and offshore portions of southwest Florida and are 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
- **Dead fish:** Charlotte

**Definition of respiratory irritation levels.**

<table>
<thead>
<tr>
<th>RESPIRATORY IRRITATION LEVEL</th>
<th>Affected Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>CHRONIC RESPIRATORY CONDITION</td>
</tr>
<tr>
<td>None</td>
<td>X</td>
</tr>
<tr>
<td>Very low</td>
<td>X</td>
</tr>
<tr>
<td>Low</td>
<td>X</td>
</tr>
<tr>
<td>Moderate</td>
<td>X</td>
</tr>
<tr>
<td>High</td>
<td>X</td>
</tr>
</tbody>
</table>

**Additional Resources**

**Health Information:**

- Other resources: [https://go.usa.gov/xQNWp](https://go.usa.gov/xQNWp)

**Recent, Local Observations and Data:**

- Mote Marine Laboratory Daily Beach Conditions: [http://visitbeaches.org](http://visitbeaches.org)
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.
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 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.
Analysis

Summary of Recent Water Samples:

*K. brevis* Cell Concentrations:

**Range:** Not Present through Medium

**Date:** 12/06-12/13

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

Imagery:

Recent ensemble imagery (MODIS Aqua, 12/14) is obscured by clouds alongshore Collier County, preventing analysis of that region. Visible chlorophyll continues to decrease alongshore southwest Florida, matching the decrease in *K. brevis* concentrations. Patches of elevated chlorophyll (2 to 8 µg/L) are present alongshore southwest Florida from Pinellas to Lee counties, but they do not contain the optical characteristics of *K. brevis*.

Forecasts:

Variable winds (5-25 kn) forecast today through Thursday (12/16-19) will minimize transport of surface *K. brevis* concentrations. Offshore winds forecast Wednesday and Thursday will minimize the potential for respiratory irritation at the coast.

Davis, Jima

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*K. brevis* cell concentration sampling data from: 12/06/19 through 12/13/19. 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 (12/14/19) with possible *K. brevis* HAB areas shown by red polygon(s).
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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).

*MODIS Aqua satellite chlorophyll image (12/14/19).*