Gulf of Mexico Harmful Algal Bloom Bulletin

Monday, October 7, 2019
NOAA National Ocean Service
NOAA Satellite and Information Service
NOAA National Weather Service

Instructions for viewing this geospatial pdf are available at: https://go.usa.gov/xn9g2.

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 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:** Collier

**Dead fish:** Collier

**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>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, X</td>
</tr>
<tr>
<td>High</td>
<td>X, X, X</td>
</tr>
</tbody>
</table>

Additional Resources

Health Information:

**Florida Department of Health:**

**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
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.

<table>
<thead>
<tr>
<th>State Name</th>
<th>County Region</th>
<th>Mon 10/07</th>
<th>Tue 10/08</th>
<th>Wed 10/09</th>
<th>Thu 10/10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIXIE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LEVY County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CITRUS County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HERNANDO County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern PASCO County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern PASCO County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern PINELLAS County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern PINELLAS County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern PINELLAS County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PINELLAS and Northern MANATEE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>South MANATEE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>South MANATEE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North SARASOTA County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North SARASOTA County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern SARASOTA County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern SARASOTA County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North CHARLOTTE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North CHARLOTTE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern CHARLOTTE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Southern CHARLOTTE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper CHARLOTTE Harbor-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern LEE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northern LEE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central LEE County-Gulf Coast</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>State Name</th>
<th>County Region</th>
<th>Mon 10/07</th>
<th>Tue 10/08</th>
<th>Wed 10/09</th>
<th>Thu 10/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central LEE County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern LEE County-Gulf Coast</td>
<td></td>
<td>moderate</td>
<td>moderate</td>
<td>low</td>
<td>very low</td>
</tr>
<tr>
<td>Southern LEE County-Bay Regions</td>
<td></td>
<td>very low</td>
<td>very low</td>
<td>very low</td>
<td>low</td>
</tr>
<tr>
<td>Northern COLLIER County-Gulf Coast</td>
<td></td>
<td>moderate</td>
<td>moderate</td>
<td>moderate</td>
<td>very low</td>
</tr>
<tr>
<td>Northern COLLIER County-Bay Regions</td>
<td></td>
<td>very low</td>
<td>very low</td>
<td>very low</td>
<td>none</td>
</tr>
<tr>
<td>Central COLLIER County-Gulf Coast</td>
<td></td>
<td>low</td>
<td>moderate</td>
<td>moderate</td>
<td>very low</td>
</tr>
<tr>
<td>Central COLLIER County-Bay Regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern COLLIER County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern MONROE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern MONROE County-Gulf Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPPER KEYS-Oceanside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPPER KEYS and FLORIDA BAY-Gulfside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIDDLE KEYS-Oceanside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIDDLE KEYS-Gulfside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOWER KEYS-Oceanside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOWER KEYS-Gulfside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Wind conditions from Naples, FL

Wind conditions from Venice Pier, 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.
Karenia brevis cell concentration sampling data from: 09/27/19 through 10/04/19. 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.

Summary of Recent Water Samples:

**K. brevis Cell Concentrations:**

**Range:** Not Present through High

**Date:** 09/27-10/04

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

**Imagery:**

Recent satellite imagery (MODIS Aqua, 10/4) shows elevated to very high chlorophyll (2 to >20 µg/L) is present alongshore southwest Florida from Lee to Collier counties. A patch with some of the optical characteristics of K. brevis is present alongshore Southern Lee and Collier counties; extending up to 30 miles offshore from northern Collier County.

**Forecasts:**

Forecast winds (5-20 kn) today through Wednesday (10/7-9) will promote the potential for onshore transport of surface K. brevis concentrations and respiratory irritation at the coast.

Keeney, Jima
Karenia brevis cell concentration sampling data from: 09/27/19 through 10/04/19. 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.

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