Gulf of Mexico Harmful Algal Bloom Bulletin

Tuesday, September 4, 2018
NOAA National Ocean Service
NOAA Satellite and Information Service
NOAA National Weather Service

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:** Manatee, Sarasota, Lee
**Dead fish:** Pinellas, Manatee, Sarasota, Lee, 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 x</td>
</tr>
<tr>
<td>Moderate</td>
<td>x x x</td>
</tr>
<tr>
<td>High</td>
<td>x 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.
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 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 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.
**Analysis**

**Summary of Recent Water Samples:**

**K. brevis Cell Concentrations:**

**Range:** Not Present through High  
**Date:** 08/25-08/31  
**Source:** FWRI, MML, SCHD, CCPCD

**Imagery:**

Recent ensemble imagery (MODIS Aqua, 9/2) is partially obscured by clouds, limiting analysis. A large patch of elevated to very high chlorophyll (2 to >20 µg/L) with some of the optical characteristics of *K. brevis* is visible 1 to 27 miles offshore southwest Florida from Lee to northern Collier County. An additional patch with some of the optical characteristics of *K. brevis* is visible 8 to 86 miles offshore Collier and Monroe counties. Both patches are consistent with the ensemble anomaly from last week.

**Forecasts:**

Offshore winds forecast today through Thursday (9/4-9/6) will promote northerly transport of surface *K. brevis* concentrations and reduce the potential for respiratory irritation at the coast.

**Ludema, Davis**
Karenia brevis cell concentration sampling data from 08/25/18 through 08/31/18. 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.

核实和疑似HAB区域用红色显示。其他区域与K. brevis光学特性用黄色显示（见第4页分析以解释）。

MODIS Aqua卫星叶绿素a图像（09/02/18）.