Conditions Report

Very low to medium concentrations of *Karenia brevis* (commonly known as red tide) are present along- and offshore portions of east 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:** Palm Beach
**Dead fish:** St. Lucie, Martin, Palm Beach, Broward

Definition of respiratory irritation levels.

<table>
<thead>
<tr>
<th>RESPIRATORY IRRITATION LEVEL</th>
<th>AFFECTED POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NONE</td>
</tr>
<tr>
<td>None</td>
<td>X</td>
</tr>
<tr>
<td>Very low</td>
<td></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:

**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.
Wind conditions from Lake Worth, 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/xnx4B.
Analysis

Summary of Recent Water Samples:

**K. brevis Cell Concentrations:**
Range: Not Present to Medium
Date: 09/25-10/04
Source: FWRI

Imagery:

Recent ensemble imagery (MODIS Aqua, 10/3) has been partially obscured by clouds along the coast from Miami-Dade to Palm Beach counties, where recent sampling indicated up to ‘medium’ *K. brevis* concentrations. Patches of elevated to high chlorophyll (2 to 10 µg/L) with some of the optical characteristics of *K. brevis* are visible extending from offshore Martin County to Brevard County.

Forecasts:

Forecast winds and currents today through Tuesday (10/5-10/9) will promote the potential for northerly transport of surface *K. brevis* and may increase the potential for respiratory irritation at the coast.

Davis, Yang
Karenia brevis cell concentration sampling data from: 09/25/18 through 10/04/18. 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.

Karenia brevis cells/L
- Not Present: 0
- Background: 1-1,000
- Very Low a: 1001-4999
- Very Low b: 5000-10,000
- Low a: 10,001-49,999
- Low b: 50,000-100,000
- Medium: 100,001-1,000,000
- High: >1,000,000

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