Conditions Report

Not present to high 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:** Brevard, Indian River
**Dead fish:** Volusia, Brevard, Indian River, St. Lucie

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>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:**

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 conditions from St Augustine, 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 High
- **Date:** 10/13-10/22
- **Source:** FWRI

**Imagery:**

Recent ensemble imagery (MODIS Aqua, 10/20) indicates patches of elevated to very high chlorophyll (2 to >20 μg/L) with the optical characteristics of *K. brevis* alongshore Indian River and Brevard counties, south of Cape Canaveral. An additional patch of elevated to very high chlorophyll (2 to >20 μg/L) with the optical characteristics of *K. brevis* is present offshore Brevard County, north of Cape Canaveral, and Volusia County where recent sampling indicated background concentrations of *K. brevis*. Additional sampling in northern Brevard and Volusia counties is recommended.

**Forecasts:**

Forecast winds and currents today through Thursday (10/23-25) will promote the potential for northerly transport of surface *K. brevis*. Offshore winds on Friday (10/26) will minimize the potential for respiratory irritation at the coast.
Karenia brevis cell concentration sampling data from 10/13/18 through 10/22/18. 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 (10/20/18).

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