The Gulf of Mexico Harmful Algal Bloom Forecast  
Revised 05/03/2021

Providing information and forecasts on Karenia brevis (red tide) in the Gulf of Mexico

Alert statement on current respiratory irritation conditions, bloom location and extent, and likelihood of intensification.

Real-Time view (i.e. current conditions) of the risk of respiratory irritation, bloom location and extent and likelihood of intensification.

Click on the “View Product” buttons for detailed information on the respiratory forecasts for the next 30 hrs; the likelihood of intensification; and the position of the bloom based on chlorophyll fluorescence imagery and cell counts information.
The **Respiratory Forecast** provides an estimate of the risk of respiratory irritation at individual beaches over the next 30 hours. It is updated every 3 hours.

The marker pins show where we have data and their color shows the expected condition now.

More info on the legend opens a page that explains the respiratory risk potential, which is based on *K. brevis* cell concentration, wind direction and wind speed.

Click on a marker pin to get a popup for the forecast at each beach for every 3 hrs. The colors and labels in the popup match the legend.

Wind dir(direction) is the direction that the wind blows from (the direction you are facing when you feel the wind on your face).
Forecast of Initial Intensification of the bloom along the coast

The **Intensification Forecast** is based on modeled circulation of the Gulf. Offshore winds push surface water offshore, which causes water near the bottom to move toward the coast, and come up at the shore, called “upwelling”. *Karenia* usually starts growing near the bottom offshore. Upwelling is responsible for bloom formation and intensification at the coast when the bloom is developing.

Animation shows the movement of particles (*K. brevis* cells) onshore and offshore at different depth layers. Blue boxes show the starting point and black diamonds the final position. Upwelling favorable winds from the north drive surface water offshore, bring cells to the coast in the bottom waters. “0” distance represents the location at the beach.

Model to determine whether intensification is likely. The location of the filled circle shows likely intensification based on the onshore movement and cell concentration.

Movement toward the coast (positive) and offshore (negative). >10 km is somewhat favorable; >20 km moderately favorable; and >30 km highly favorable.
Satellite imagery showing fluorescence caused by chlorophyll-a. The algorithm is not specific to *K. brevis*, but *K. brevis* is the most common algae on the SW Florida coast.

Colored circles show *K. brevis* cell concentrations in seawater samples (from several sources), provide more information, and help confirm the presence of blooms.

The layers box on the top right allows you to turn off and on cell counts, imagery or the masks which hide areas where *K. brevis* is unlikely to occur.

If you click on a circle, the date and source is shown. If you click elsewhere, you get the latitude and longitude of the center of the “hand” that you are using to scroll around the window.
Other Current Information

The bottom boxes provide links to current information from other sources. Unlike, the top row of tools, the images shown here are examples, and do not show current conditions.

The **Beach Conditions Reporting System** at Mote Marine Lab provides nearly daily (or twice daily) reports of various conditions at the beach, including respiratory irritation, waves, water color, etc.

The **State of Florida Observations** gives current Red Tide Status, and links to additional maps and graphics.

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**Beach Conditions Reporting System**

Provides today’s conditions at multiple beaches along the west coast of Florida, this includes respiratory irritation, rip currents, wind, and others.

[View Product]

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**State of Florida Observations**

Concentration of *K. brevis* cells provided by Florida state monitoring programs, from water samples over the last 8 days.

[View Product]