

# Gulf of Mexico HAB-OFS Bulletin Guide

Revised: January 2018

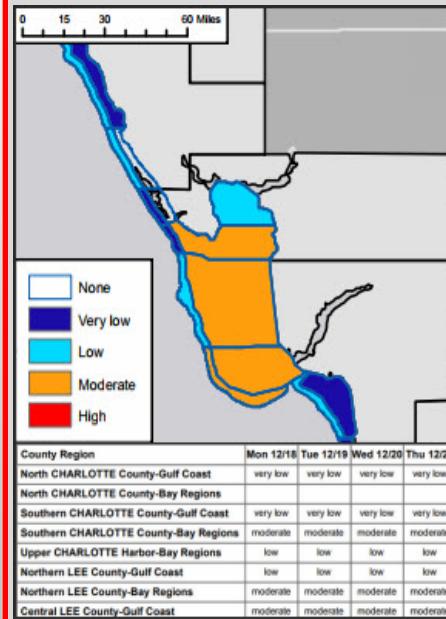
## Harmful Algal Bloom Operational Forecast System

(HAB-OFS) Bulletins contain forecasts for blooms of *Karenia brevis* in the Gulf of Mexico. The following pieces of information are included:

1. Bloom formation at the coast (Florida only)
2. Transport
3. Intensification (Florida only)
4. Respiratory irritation level

NOAA HAB-OFS Bulletin forecasts are created with ocean color imagery, *K. brevis* cell concentrations, observed and predicted wind patterns, hydrodynamic models, and beach impact reports. Bulletins are [geo-spatial PDFs](#) allowing users to view data in a geographic context.

## Conditions Reports: Impacts and Forecasts by Region - Pages 1 & 2



### Respiratory Irritation Forecasts

Daily forecasts by half-county for the highest potential level of respiratory irritation, based on *K. brevis* cell concentrations and prevailing winds. Conditions are provided as an interactive map with layered forecast data and as a table of daily forecasts by region.

### Cell Concentrations

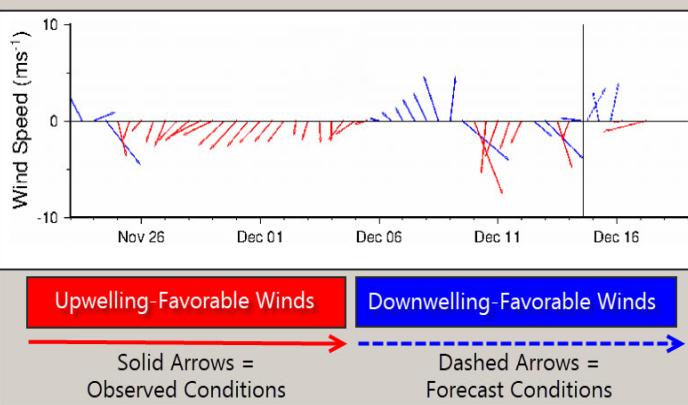
A 10-day summary of *K. brevis* cell concentrations and associated locations.

### Observed Impacts

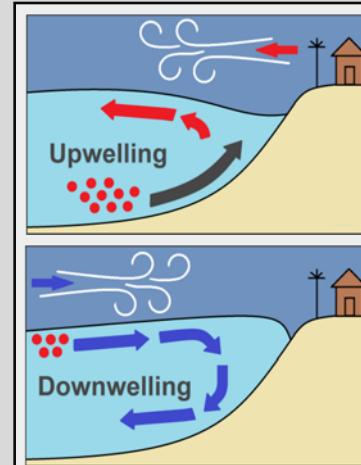
Reports of respiratory irritation, dead fish, and discolored water by county.

## Wind Data: Observed and Forecast Wind Conditions - Page 3

### Observed and Forecast Wind Conditions



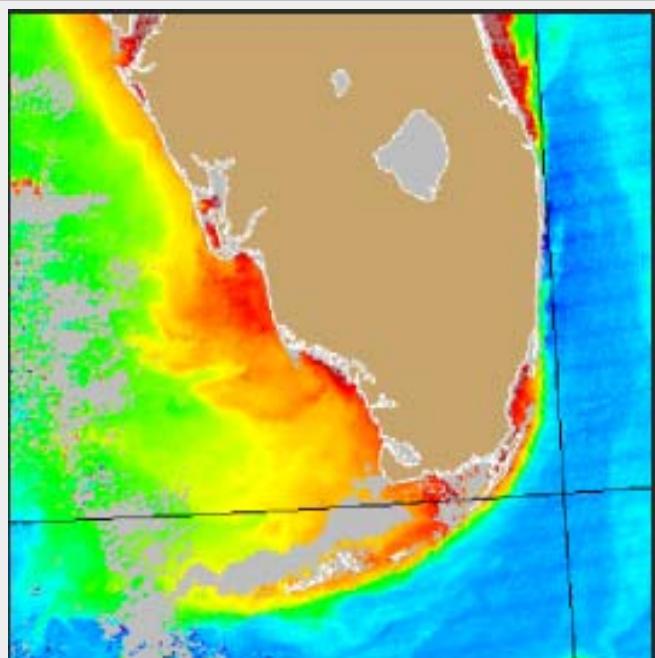
Wind-plot diagrams help determine potential for bloom formation, intensification, or transport. Plots are an average of twice-daily observations. Wind direction is graphically represented through barb angle, showing the cardinal direction of wind origination. Wind speed is reported in knots and meters per second, and graphically represented by barb length.



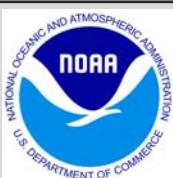
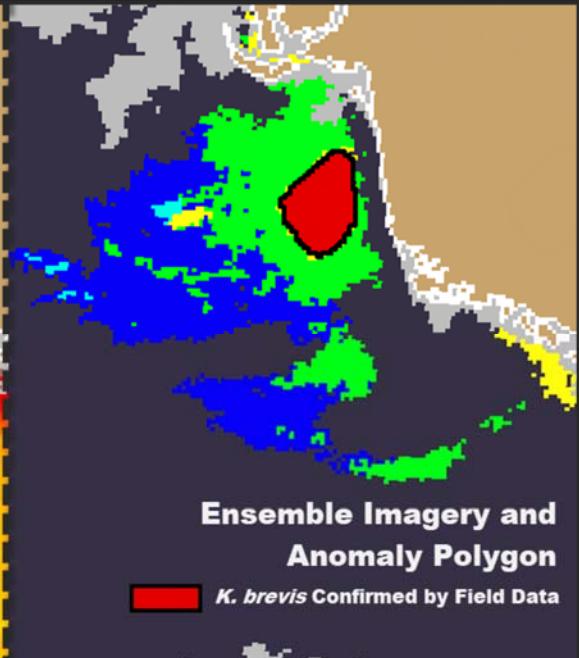
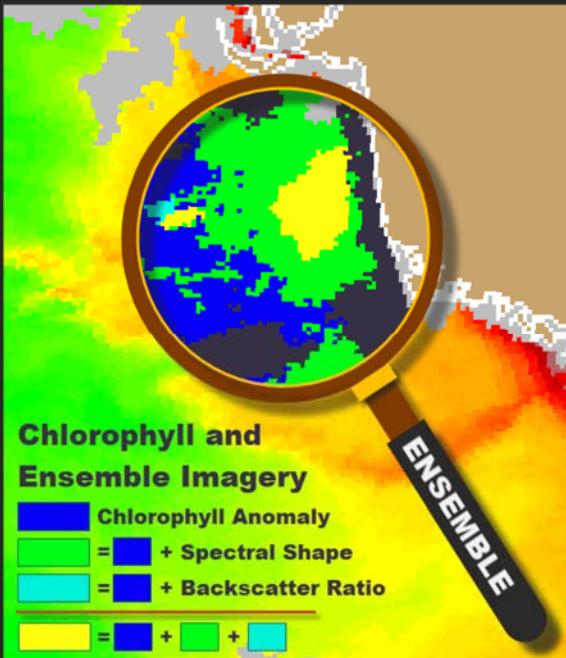
Offshore winds create upwelling conditions, potentially bringing at-depth *K. brevis* concentrations to the coast. Onshore winds create downwelling conditions, potentially intensifying surface *K. brevis* concentrations.

## Imagery and Analysis: Position and Concentration of *K. brevis* - Pages 4 & 5

A 10-day summary of *K. brevis* cell concentrations and locations. Ocean color satellite imagery products are interpreted and reference patches of anomalously high chlorophyll concentrations in µg/L. Data are used to forecast the potential for bloom formation, intensification, or transport of surface *K. brevis* concentrations.



Ocean color imagery is created with Moderate Resolution Imagery Spectroradiometer (MODIS) satellite imagery. Chlorophyll concentrations are shown through a color spectrum, where purple represents the lowest concentrations and red represents the highest.



### NOAA/National Ocean Service

For more information and to subscribe, please visit the NOAA HAB Forecast page by clicking [here](#).

### Chlorophyll Anomaly and Ensemble Imagery :

Red polygons on the map represent regions flagged by the chlorophyll anomaly and/or ensemble product and are confirmation of field data or strongly suspected to contain *K. brevis*.

### Position and Concentration of *Karenia brevis*:

Cell concentration data for the last 10 days are plotted over ocean color imagery. Maps and samples are interactive and contain georeferenced data for each region.

### Transport, intensification, and formation forecasts:

Wind and surface current data are used to forecast potential for formation, intensification, or transport of surface bloom concentrations.