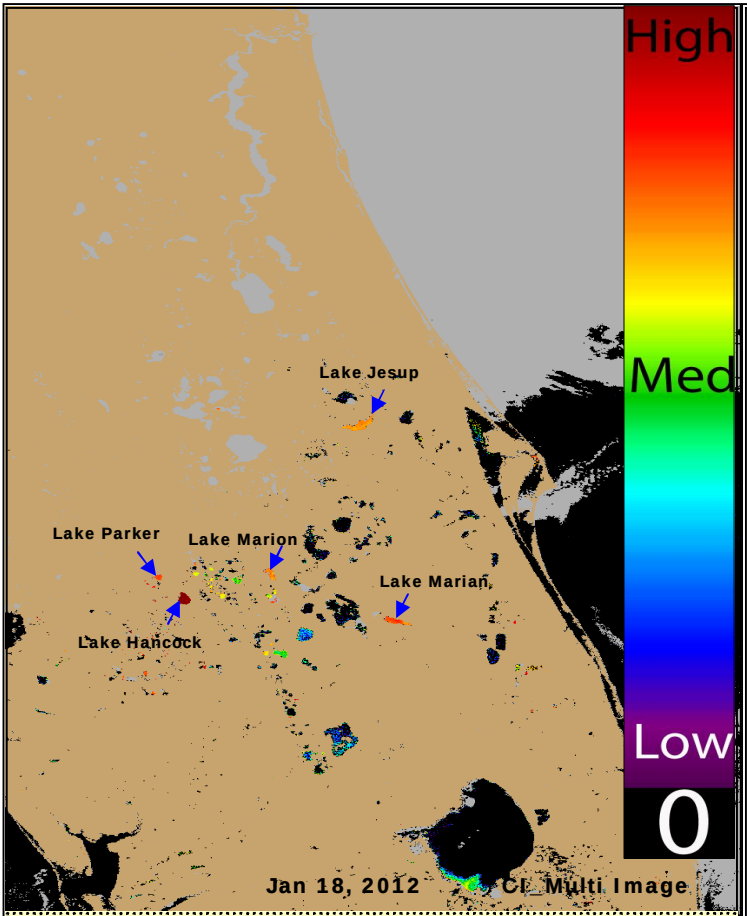
Experimental Cyanobacteria Health Bulletin: Jan. 18, 2012

To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635.
For questions about the report: please contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management Districts, The National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report was received through a NOAA/NASA Agreement (Number: NNH08ZDA001N)

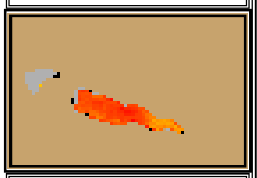


If your agency has field sampling data on the regions shown in red, these data can be used to help validate the MERIS imagery. Contact Becky Lazensky at: 352-955-1900 to participate in future FDOH validation efforts.

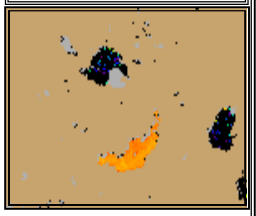
CyanoHabs Conditions Report: Jan. 18

- Most of N. FL was blocked by cloud coverage and was not visible in the Jan. 18th satellite imagery-grey indicates cloud cover.
- Lake Marian (Osceola County) displayed highly elevated estimated cyanobacteria concentrations.
- Lake Jesup (Seminole) displayed highly elevated estimated cyanobacteria concentrations.
- Lakes Hancock, Marion, and Parker (Polk County) displayed highly elevated estimated cyanobacteria concentrations.

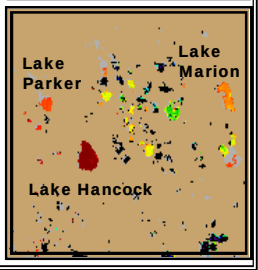
Lake Marian



Lake Jesup



Lakes Hancock, Marion, and Parker

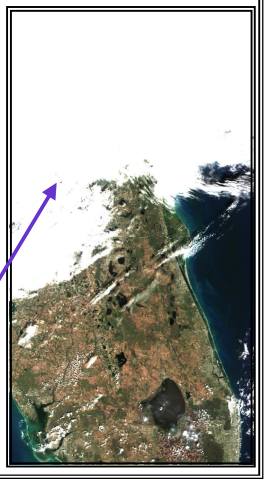


Presence of Clouds in the Imagery: Becky Lazensky, MPH

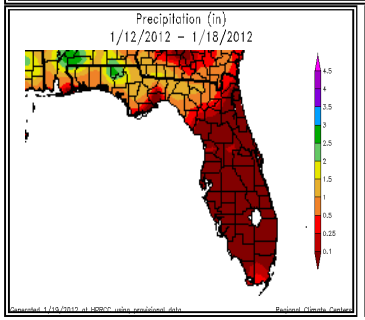
Cloud coverage can block the satellite from capturing data, resulting in a grey color on the CI Multi images shown throughout this bulletin. Grey does not indicate the area is free of cyanobacteria, it indicates that data are not available.

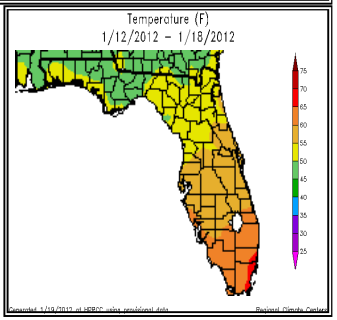
In the Jan. 18th true color MERIS image on the right, a weather system passed over much of North FL, producing heavy cloud coverage. Most of South Florida did present well in this image.

For more information about interpreting the color range-see the color key on the bottom left-hand side of the bulletin.



White cloud coverage captured by MERIS true color satellite. Jan. 18, 2012-FL

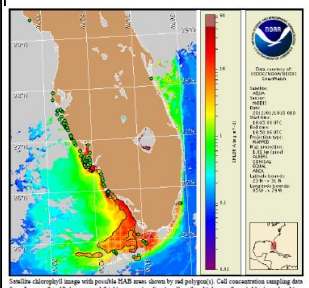




The MERIS Satellite Images above display a cyanobacteria index generated with a Medium Resolution Imaging Spectrometer (MERIS) satellite provided by the European Space Agency & NOAA.

- Very low likelihood of a bloom
- May indicate clouds or missing data
- Low cyanobacteria concentrations
- Medium cyanobacteria concentrations
- Probable bloom or higher cyanobacteria concentrations

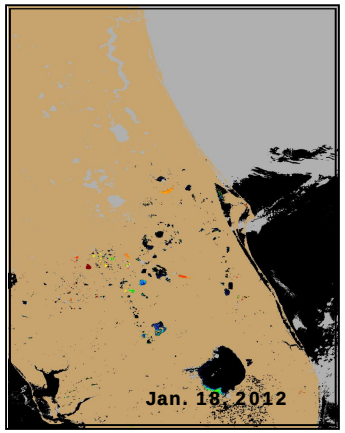
Non CyanoHABs & Health Report-*K. brevis* Bloom: January 19, 2012 Update



Gulf of Mexico Harmful Algal Bloom Bulletin Region: SW Florida
Date: January 19, 2012
NOAA Ocean Service, NOAA Satellite and Information Service, NOAA National Weather Service

Confirmed Species: *Karenia brevis*
Bloom Boundaries (FWRI/FWC): Alongshore and inshore from central Lee County to northern Monroe County. Recent samples of *K. brevis* range from very low to high alongshore and inshore of the Pine Island Sound, San Carlos Bay, and Sanibel Island, with not present to low concentrations in the Marco Island and Santina Bay regions of Lee and Collier Counties [FWRI/FWC, Collier County Pollution Control and Prevention Department (CCPCPD), 1/17/12 to 1/18/12].
Health Effects: Respiratory irritation was reported on Jan. 12th in Sarasota County, although *K. brevis* was not detected in samples collected from 1/10/12 to 1/17/12 (FWRI/FWC, Mote Marine Laboratory).
To Report a Fish Kill: Call the FWRI/FWC Fish Kill Hotline at 1-800-636-0511
Visit FWRI/FWC for Updates: http://myfwc.com/research/redtide/events/status/

Interpreting Medium Resolution Imaging Spectrometer Satellite Imagery



- The medium resolution imaging spectrometer (MERIS) is located on the Envisat satellite deployed by the European Space Agency.
- The cyanobacterial index algorithm shown in this report is designed to identify high biomass algal blooms caused by cyanobacteria. However, the current algorithm tends to have false positives, so other blooms may be "flagged". NOAA is currently testing new algorithms that are more specific to cyanobacteria.
- Data can be used to estimate near surface cyanobacteria concentrations which are an indication that algal blooms may be present.
- The mathematical algorithms used to generate the satellite images can vary, resulting in some models having a higher likelihood of detecting surface blooms.
- While patches of red or warm colors may indicate a bloom, these data have not been verified in most cases using ground-truth methods. Data collected by the satellite is considered experimental.
- Only portions of Florida are in the satellite's current coverage area.
- Several environmental factors may affect how results can be interpreted. For example, areas with abundant aquatic plant vegetation may present with a high cyanobacteria index on the color spectrum, resulting in a false positive bloom reading.
- The satellite identifies the biomass near the surface (in the upper few feet of water). As a result, it may underestimate the total biomass for blooms that are mixed or dispersed through the water column. Turbidity does not otherwise influence the algorithms. The satellite imagery does not display the species of algae present.
- Cloud coverage can obscure imagery and create patches or gray areas on map and obscure bloom detection.
- Weather conditions can impact the duration and location of blooms and the satellite imagery shown in this report may no longer be relevant. Images represent the last image taken with a realization that blooms may have moved, dissipated or intensified.

To review HABs satellite reports in the Gulf of Mexico and marine waters visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive at: http://tidesandcurrents.noaa.gov/hab/bulletins.html

For Individual Weather Station Data Visit:
http://www.sercc.com/climateinfo/historical historical_fl.html

Questions about the report or suggestions: You can contact
Becky Lazensky, MPH
352-955-1900
Becky_Lazensky@doh.state.fl.us