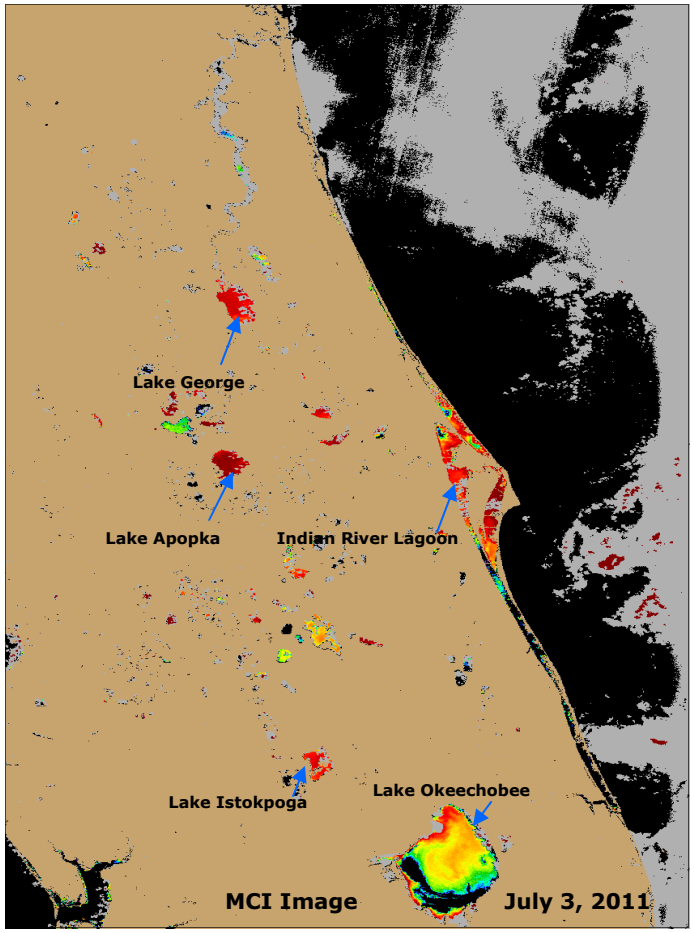
Experimental Cyanobacteria Bulletin: July 3, 2011

To report an illness related to a marine toxin or algal bloom please contact the FL Department of Health 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)



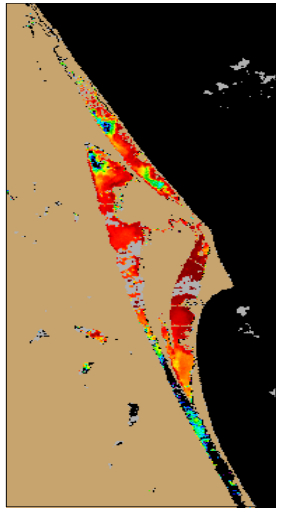
The MERIS Satellite Images above display a cyanobacteria index generated with a Medium Resolution Imaging Spectrometer (MERIS) satellite provided by the European Space Agency & NOAA.

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

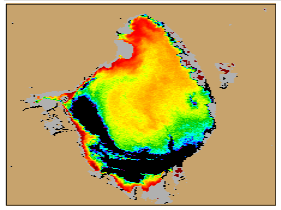
Conditions Report: July 3, 2011

- Cyanobacteria estimates were remarkably elevated in several lakes, including an ongoing detection in Lake George, Lake Apopka, Lake Istokpoga, and Lake Okeechobee.
- The Indian River Lagoon has recently begun showing an increase in estimated cyanobacteria concentrations.
- An ongoing bloom has been reported in the Caloosahatchee River (Lee County). Lake Okeechobee (photo on right) supplies water to the Caloosahatchee.

Indian River Lagoon



Lake Okeechobee



Recent Blooms

Caloosahatchee River
June 22
Photo by FL DEP

Coordinates: 26.7123, -81.6098
City: LaBelle
Confirmed Species: Anabaena flosaquae
Limnothrix, Pseudanabaena cf minima
Sample Collection Date: June 2, 2011
Bloom continuing as of June 22, 2011

St Johns River Field Brief
By: Robert Burks, St Johns River Water Management District, June 20-23

Surface Water quality: Lower Basin river continues to show high salinities through Hibernia Point (near Black Creek)

Weather/Rainfall: Hot and humid. Well above average day temps (+47F for week) and night (+ 16F for week). Rainfall at 1.21 inches on 6/17, and 1.78 inches for 6/23

Algal/HAB: No bloom or scum formations observed from Astor to Mayport, with the exception of some filamentous formations near shore at Black Creek on 6/22. HAB species were identified in samples from Doctors Lake, Mandarin Pt, & Plummers Cove

For a full report:
Email Robert Burks
rburks@sjrwmd.com

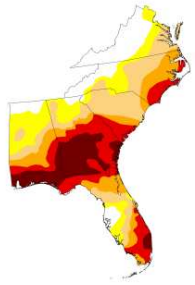
U.S. Drought Monitor

Southeast

July 5, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.45	84.55	67.81	45.93	31.27	13.56
Last Week (06/28/2011 map)	15.61	84.39	62.63	44.22	29.11	14.73
3 Months Ago (04/05/2011 map)	28.48	71.52	49.77	14.63	4.44	0.00
Start of Calendar Year (12/28/2010 map)	23.01	76.99	51.84	23.55	5.63	0.00
Start of Water Year (09/28/2010 map)	18.18	81.82	38.04	10.32	0.90	0.00
One Year Ago (06/29/2010 map)	75.34	24.66	0.07	0.00	0.00	0.00

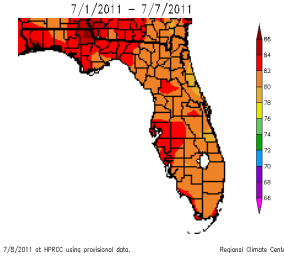


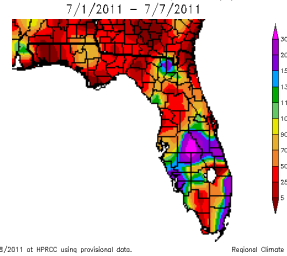
Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

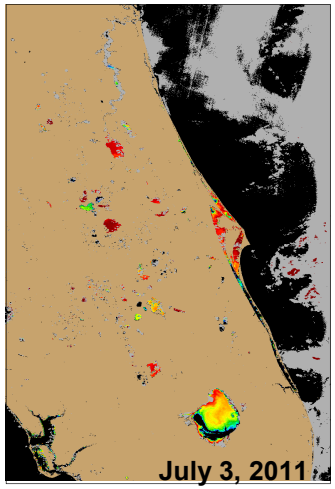
Released Thursday, July 7, 2011
Richard Heim, NOAA/NESDIS/National Climatic Data Center





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 is 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 FL are in 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