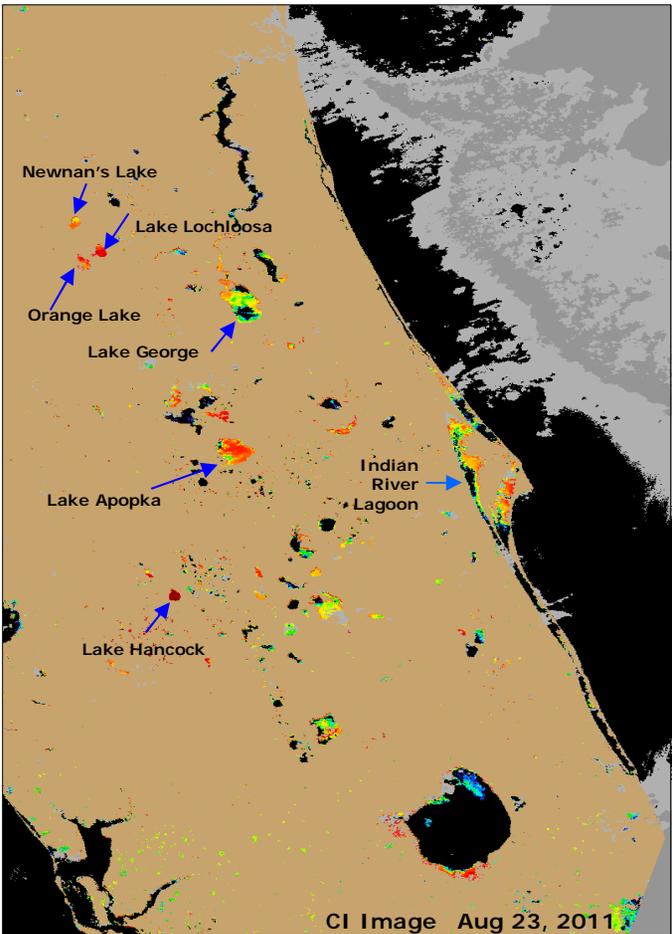
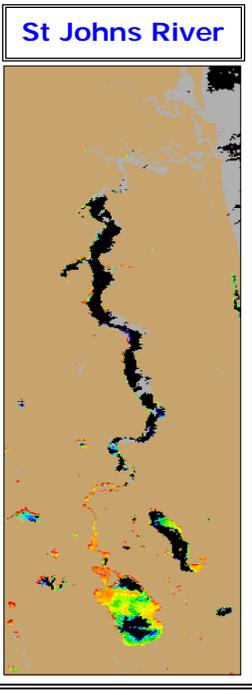
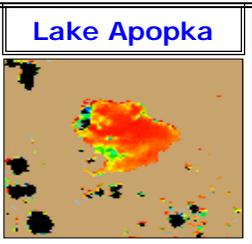


To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635. For questions about the report: please contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management 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)



### Conditions Report: August 23, 2011

- Cyanobacteria estimates were high in multiple lakes including Orange Lake, Newnan's Lake, and Lake George, Hancock, Apopka, and Lochloosa.
- The St Johns River continues to display medium-high concentrations in and surrounding Lake George.
- A microcystins bloom was visually observed in Crescent Lake on August 3, 2011 by the St Johns River Water Management District.
- Radiometer sampling was conducted in Lake Apopka on August 17. No blooms were visible during boat sampling.
- Mango Lake: 4 gastrointestinal illnesses were reported in swimmers with an onset of Aug 14, 2011. See the section on recent health reports on right for more details.



### St Johns River Water Management District Crescent Lake Observations, Aug 3, 2011. by Robert Burks

Approximately 80% of the Crescent Lake perimeter was observed during ground-truth sampling. Cyanobacteria surficial scum formations were reported throughout most of the lake and were most prevalent at the two yellow markers on the map below. Zoom images for improved viewing. This represents the first major cyanobacteria observations of the season in the district, and appear to be expanding rapidly. For a full report email Robert Burks at: [rburks@sjrwmd.com](mailto:rburks@sjrwmd.com)

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.

### Recent Blooms/ Microcystis aeruginosa Mango Lake

Photo credits [http://en.wikipedia.org/wiki/Microcystis\\_aeruginosa](http://en.wikipedia.org/wiki/Microcystis_aeruginosa)

Coordinates: 27.9701, -82.2984  
 Location: Brandon, FL (Hillsborough County)  
 Select Confirmed Species: *Microcystis aeruginosa* (128,040,000 cells/l); *Chroococcus* sp. (116,160,000 cells/l); *Pseudanabaena cf raphidoides* (12,320,000 cells/l)  
 Sampled By: Florida Fish and Wildlife  
 Sample Collection Date: August 22, 2011

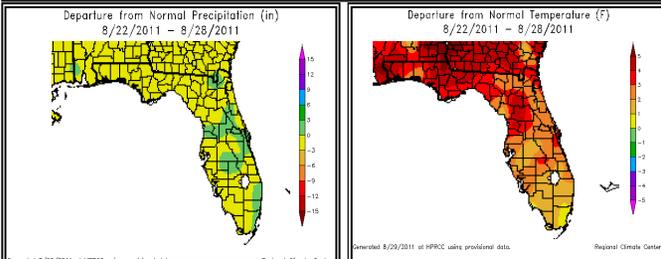
### Recent Health Reports

#### Illness Cluster in Swimmers at Mango Lake

FL-DOH was notified by the FWC fish-kill hotline of a cluster of 4 illnesses in persons who swam in Mango Lake. Of the group of 20 swimmers, 4 reported vomiting & diarrhea beginning approximately 30 hours following their exposure. The swimmers reported heavy algae in the lake.

Water samples collected by FWC on Aug 22 tested positive for *Microcystis aeruginosa* in high concentrations. Symptoms reported by the swimmers were consistent with either norovirus or a reaction to cyanobacteria. An Epi Com was posted on Aug 25.

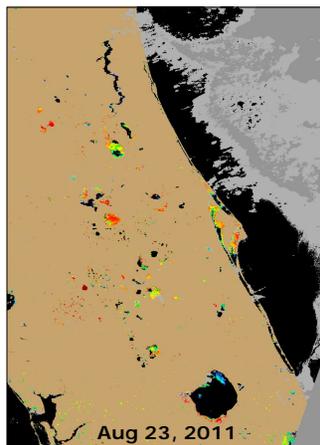
Thanks to: Mike Friedman, Regional EH Epidemiologist FDOH Food and Waterborne Disease Program.



# 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](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