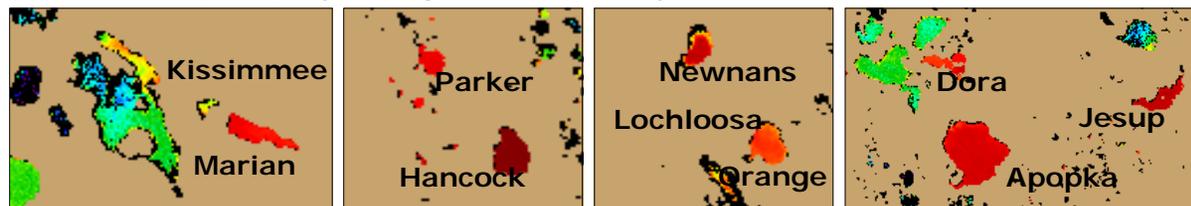


To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-888-232-8635. For questions about the report: contact Becky Lazensky, FL-DOH, at 352-955-1900. Images/data were obtained from Florida Water Management Districts,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

## Cyanobacteria HABs Conditions Report: April 3

- Lakes Kissimmee and Marian (Osceola County) displayed medium and high estimated cyanobacteria concentrations
- Lakes Parker and Hancock (Polk County) displayed high estimated cyanobacteria concentrations
- Newnans, Lochloosa, & Orange Lakes (Alachua & Marion Counties) and Jesup, Dora, and Apopka Lakes (Seminole, Lake, and Orange Counties) displayed high estimated cyanobacteria concentrations



## ENVISAT SATELLITE IS DOWN-Impacts on MERIS Images

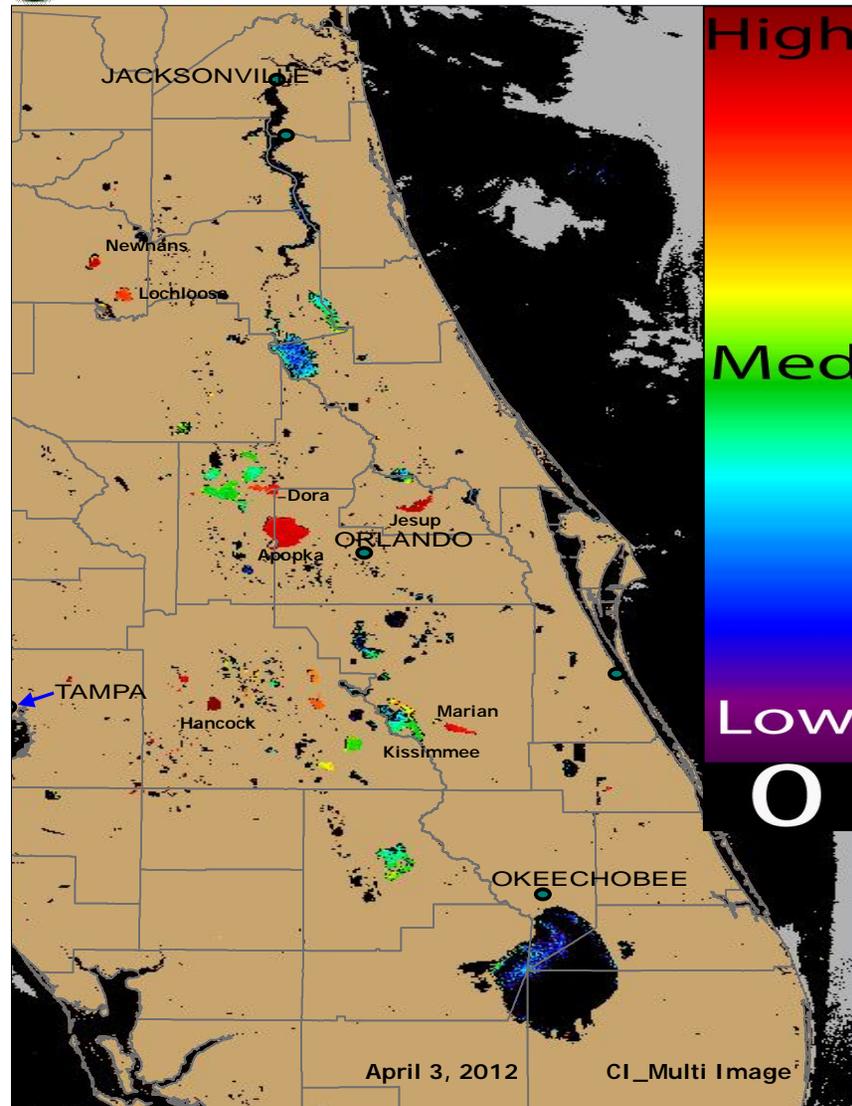
On April 8th, communications between the European Space Agency (ESA) and the Envisat satellite were lost. The Envisat satellite platform carries the MERIS sensor which captures the images featured in this bulletin. This will impede the production of MERIS satellite imagery until repairs are made or a new satellite is launched. The last MERIS image we have is the April 3rd image. NOAA may provide alternative MODIS imagery until communications are re-established. We will keep everyone updated on the progress. For more information visit: <http://www.nature.com/news/workhorse-climate-satellite-goes-silent->



Envisat (Photo courtesy of European Space Agency)

## Algal Bloom on the Caloosahatchee River-Update: April 13th

**Olga, FL:** An ongoing cyanobacteria bloom was reported in the Caloosahatchee River. Samples collected on April 2nd were positive for Planktothrix and Anabaena/Aphanizomenon dominant species. (Green Water Laboratories). These species of algae are potential toxin producers. Toxin testing is being conducted by Green Water Laboratories. The South Florida Water Management District plans to send down pulses of freshwater from Lake Okeechobee to 'flush' out the river and increase flows to the Caloosahatchee. The Lee County Health Department has issued a health advisory for the river.



If your agency has field sampling data, which can be used to help validate the MERIS imagery, Contact Becky Lazensky at: 352-955-1900

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

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

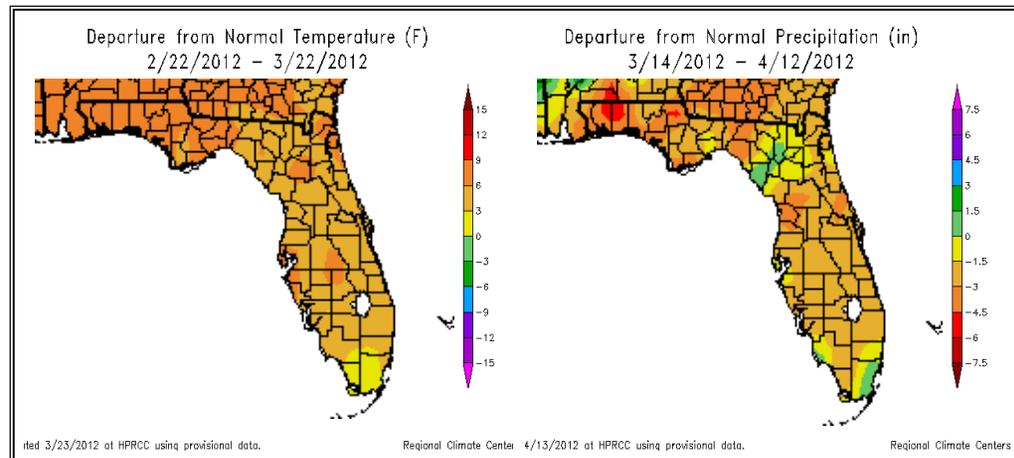
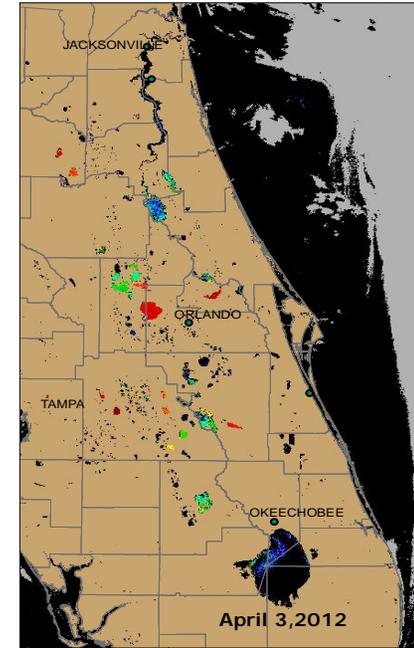
# Interpreting Medium Resolution Imaging Spectrometer Satellite Imagery

- The medium resolution imaging spectrometer (MERIS) is located on the Envisat satellite deployed by the European Space Agency.
- The cyanobacterial index algorithm 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 algorithms used to generate the satellite images can vary, resulting in some models having a higher likelihood of detecting surface blooms. 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.
- 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 part of FL is in the satellite's coverage area.
- Several environmental factors may affect how results can be interpreted. For example, areas with abundant aquatic vegetation may present with a high cyanobacteria index on the color spectrum, resulting in a false positive bloom reading.

# Weather Conditions: March 14- April 12 Temperature and Precipitation



- 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.
- Cloud coverage can obscure imagery and create patches or gray areas on map and obscure bloom detection.



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