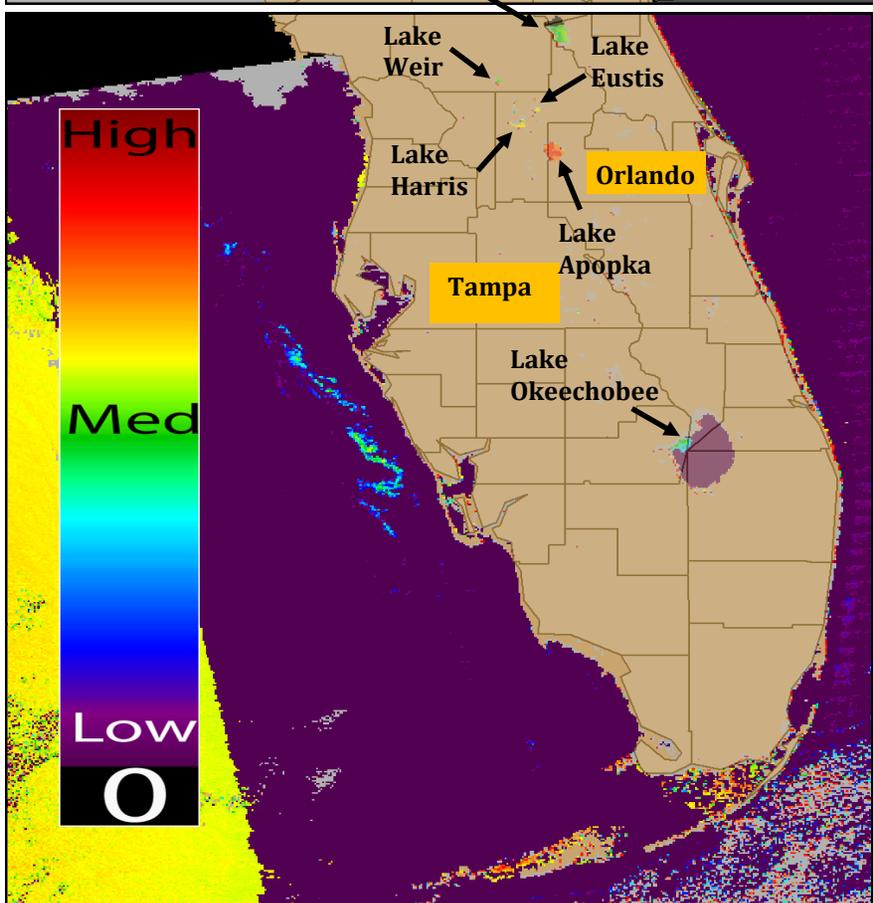


To report an illness related to a freshwater, estuarine, marine toxin or harmful algal bloom, please contact the Florida Poison Information Center at 1-800-222-1222.

Images/data are obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report comes from NOAA/NASA Contract NNH08ZDA001N.



MODIS Images display a chlorophyll-a index generated with a Moderate Resolution Imaging Spectroradiometer provided by the National Aeronautics and Space Administration (NASA)

Very low likelihood of a bloom   
 May indicate clouds or missing data   
 Low estimated chlorophyll-a concentrations   
 Medium estimated chlorophyll-a concentrations   
 Higher estimated chlorophyll-a concentrations

## CyanoHAB Conditions Report

- Crescent Lake (Putnam/Flagler Counties) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake George (Volusia/Putnam Counties) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Weir (Marion County) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Harris and Lake Eustis (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Apopka (Orange/Lake Counties) displayed high estimated elevated chlorophyll-a concentrations.
- Lake Okeechobee (Okeechobee/Glades/Hendry/Palm Beach/Martin Counties) displayed low to medium estimated elevated chlorophyll-a concentrations.
- Both cloud cover and glint were present resulting in difficulties with data collection and interpretation.

## Program to fund environmentally friendly farming techniques...

**The Florida Times-Union** *Program to fund environmentally friendly farming techniques seeing results; deadline for money approaching*

By Meredith Rutland | Released: May 20, 2014 @ 1:37 PM | Updated: May 21, 2014 @ 1:33 PM

Some First Coast farmers are trying new irrigation and fertilization techniques to see if they can keep waste out of the St. Johns River amid debate about managing the river's water quality. Two years into a new partnership that gives farmers money to try new irrigation and fertilizer methods, some farmers say they're able to produce the same amount of crops with fewer resources. Applications for funding through the project are due June 15. Farmers, regional agencies and state departments banded together in 2011 to form the Tri-County Agricultural Area Water Management Partnership, which provides farmers in St. Johns, Flagler and Putnam counties with money to try new methods that could be more environmentally friendly. Water quality and water quantity issues in the St. Johns River have been the subject of an ongoing debate. A plan to provide Central Florida with water — due to its growing need and shrinking water supply — has focused attention on the river as a possible source of water for the area. Algae blooms, caused by too much waste in the river, also have been a concern in recent years. But keeping fertilizer out of the river is difficult for farmers whose irrigation runoff is often next to the river's banks. Traditional irrigation and fertilizer methods encourage lots of water and lots of fertilizer. Leftover fertilizer can wash off farms and into the river, especially during rainy months.... The partnership gave out \$3.4 million last fiscal year to farmers for equipment and projects, and about \$2.5 million will be given out this fiscal year through grants from the St. Johns River Water Management District, the Florida Department of Agriculture and Consumer Services, the Florida Department of Environmental Protection and the U.S. Department of Agriculture Natural Resources Conservation Service. The money doesn't always cover the full cost of the installation, and the farmers have to pay for maintenance themselves, but it provides an incentive to try a new method despite some farmers' tight budgets, said Bryan Jones of Riverdale Farm.... For the complete article, see <http://members.jacksonville.com/news/metro/2014-05-20/story/program-fund-environmentally-friendly-farming-techniques-seeing-results>

Status reports for Florida red tide are suspended until bloom conditions reoccur.

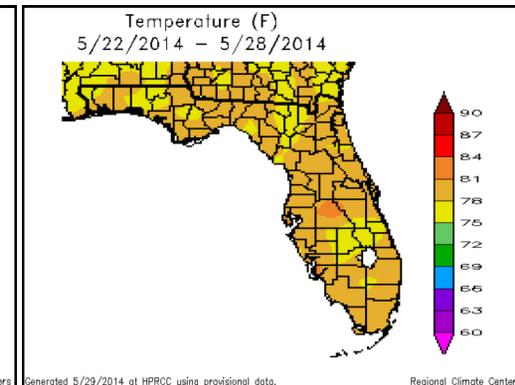
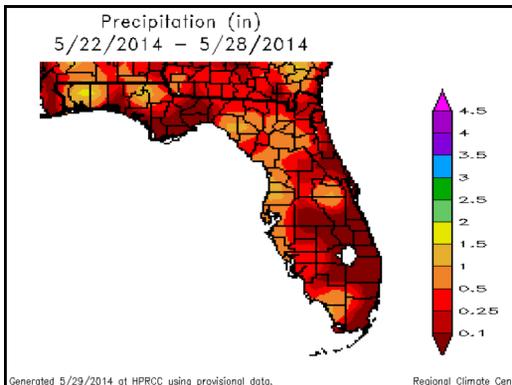
## Interpreting Moderate Resolution Imaging Spectroradiometer Data

- The Moderate Resolution Imaging Spectroradiometer (MODIS) is deployed by NASA onboard the Terra (EOS AM) and Aqua (EOS PM) satellite. It passes over the earth, collecting new imagery every 1-2 days.
- This imagery is used as a surveillance tool. Data collected by the MODIS sensor are used to generate a chlorophyll-a index, which is used to forecast harmful algal blooms. The results are not specific to any one HABs species, and should be followed-up with onsite field observations. Data is only suggestive of a potential HAB event.
- MODIS uses a spectral band that is much coarser than MERIS; therefore, only select larger water bodies in FL are visible using this technology.
- MODIS is better at depicting low to medium chlorophyll-a concentrations. Once a potential bloom is depicted, a switch in algorithms may be used to improve the visibility. MODIS has a few spectral bands, which have higher resolution that are more comparable to MERIS. However, these bands do not cover all of FL.
- Several environmental factors may affect how results can be interpreted. For example, areas with abundant aquatic vegetation may present with a high chlorophyll-a index resulting in a false positive bloom reading.
- The sensor identifies 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.
- While patches of red or warm colors may indicate higher chlorophyll-a concentrations, these data have not been verified in most cases using ground-truth methods.

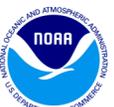
## Weather Conditions: Precipitation and Temperature - 05/22/14 to 05/28/14

- 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.

May 22, 2014 MODIS Aqua True Color Image



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/climate>

For information, please contact:  
Laura Morse, Public Health Toxicology Program, at 850.245.4444 x 2080 or [laura.morse@flhealth.gov](mailto:laura.morse@flhealth.gov)