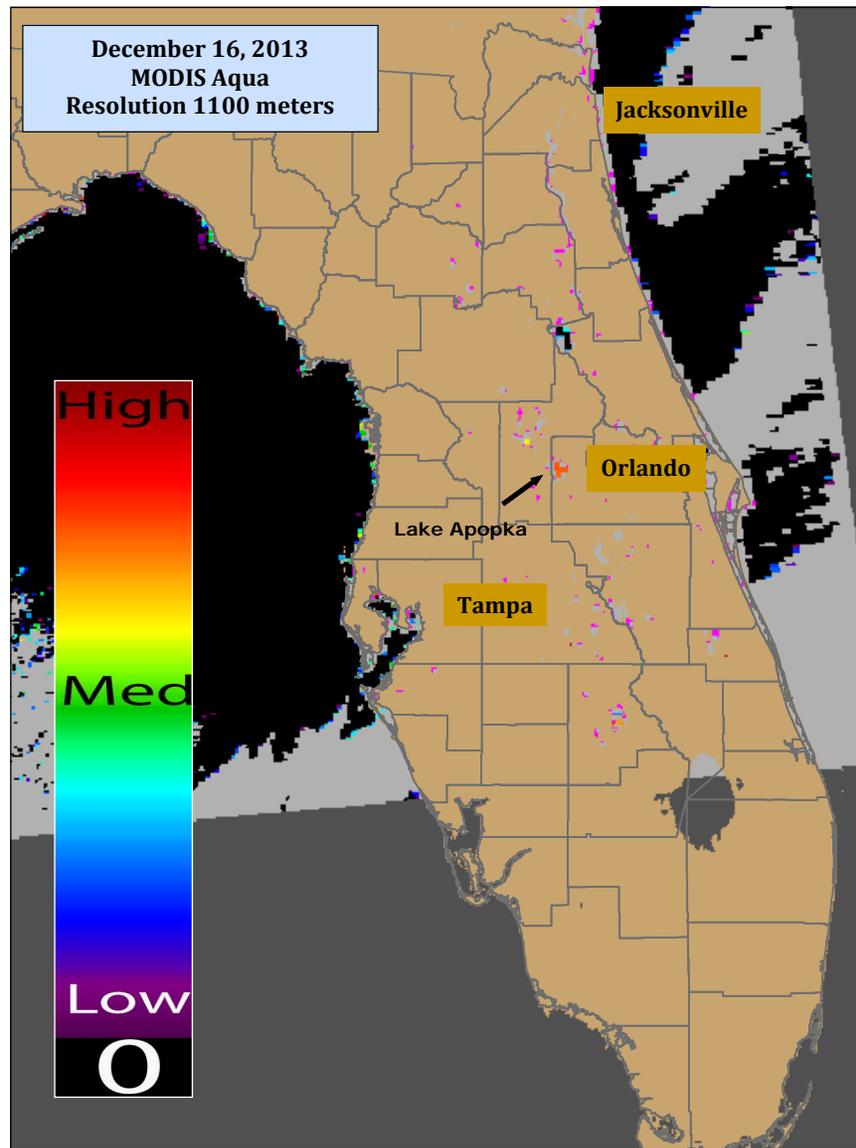


To report an illness related to a freshwater, estuarine, marine toxin or harmful algal bloom, please contact the Florida Poison Information Center at 1-800-222-1222. Images/data obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report 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

- Lake Apopka (Orange/Lake Counties) displayed a high estimated elevated chlorophyll-a concentration.
- Other large water features in Florida were unremarkable on the 1100 meter resolution MODIS image.

“Experts deliver aid by the yard”

FLORIDATODAY.com

December 14, 2013



Advice geared toward helping improve lagoon

A dying Indian River Lagoon has brought to life a new, hands-on back-yard program. The Brevard County Extension’s My Brevard Yard workshops teach lagoon-friendly fertilizing, watering and other landscaping tips. Brevard County Extension agents say their new workshops could be another key to cleaning up the lagoon. Homeowners can save money, help the lagoon and beautify their yards at the same time, extension agents say. “We want them to leave getting their hands a little dirty,” Matt Lenhardt, a commercial horticulture agent, said of the new workshop. “It’s one thing to sit in the classroom, but to just kind of go through the steps is kind of beneficial. ” For \$15, participants take a three-hour workshop where they can learn what pollutes the lagoon and other local waters. Then they learn how to take a soil sample, how to calibrate a fertilizer spreader, how to set an irrigation timer and other landscaping practices. If they want to learn more, for another \$20 they can have a horticulture agent or Master Gardener visit their home to give tips around the yard. That includes the cost of a soil test, a well-water test for salt level, and help with creating a fertilization schedule based on soil test results and local ordinances ... “I don’t think anybody else does this,” Lenhardt said of the new program. “We would like this to become a model for other counties.”

To learn about the My Brevard Yard program, visit: <http://mybrevardyard.eventbrite.com>
 • Or call the Brevard Extension: 633-1702; • Brevard Extension: <http://brevard.ifas.ufl.edu>;
 • Brevard Extension horticulture information: <http://brevard.ifas.ufl.edu/Horticulture/index.shtml>

For article, see: <http://www.floridatoday.com/article/20131214/ENVIRONMENT/312140026/Experts-deliver-aid-by-yard>

**** Due to background levels of *K. brevis* off Florida’s SW coast, status reports for Florida red tide will be suspended until bloom concentrations re-occur.**

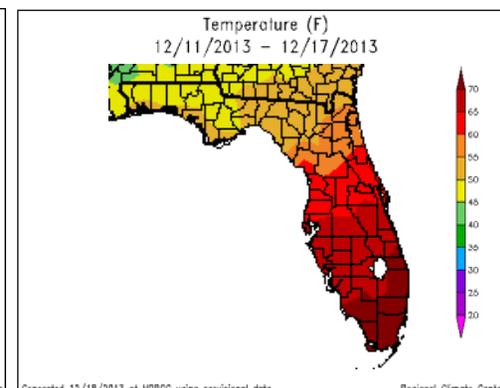
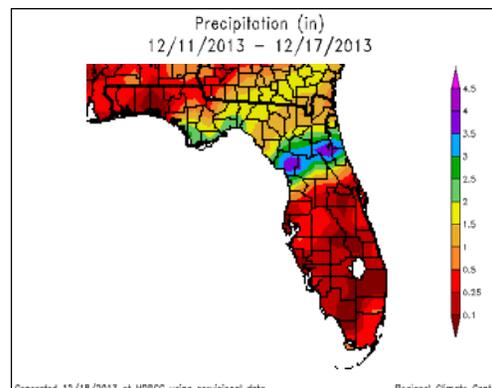
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 which 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 so 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 although 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 Chl-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 - 12/11/13 to 12/17/13

- 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.

December 16, 2013
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/perspectives>

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