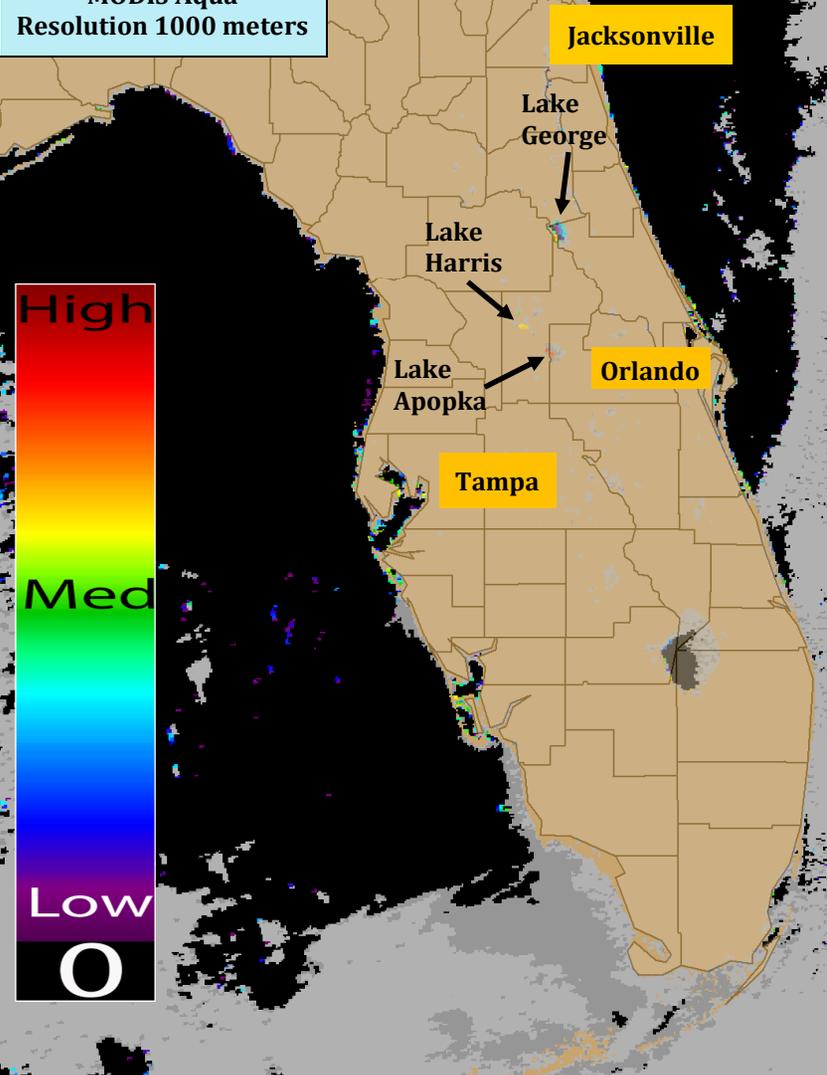


To report an illness related to a freshwater, estuarine, marine toxin or harmful algal bloom, please contact the Florida Poison Information Center at 1-800-222-1222.

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.

April 10, 2014  
MODIS Aqua  
Resolution 1000 meters



## CyanoHAB Conditions Report

- Lake Apopka (Orange/Lake Counties) displayed high estimated elevated chlorophyll-a concentrations.
- Lake Harris (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake George (Volusia/Putnam Counties) displayed low to medium estimated elevated chlorophyll-a concentrations.

## Lagoon oyster program sees 'phenomenal' results



By Jim Waymer, Brevard

Released: April 12, 2014 at 6:24 AM

Finally — some good news for the Indian River Lagoon. The first round of baby oysters that volunteers have been hanging from their docks since February are growing like gangbusters. An examination of 30 docks where oysters have been placed thus far show the tiny shellfish have grown from about 2 millimeters a few months ago to over 10 times that size, about as big as a quarter. "That's phenomenal," said Virginia Barker, Brevard County's watershed program manager. "We're so excited about that ... We had a lot of concerns." The oysters have been placed on about 100 docks in Brevard County so far. On Friday, Brevard Zoo handed out baby oysters to about another 450 volunteer "oyster gardeners." Officials hope bringing oysters back could cleanse the lagoon of contaminants and excess nutrients that fuel algae blooms. They give a caveat: one bad storm could wipe out the little guys. But even if that happens, the experiment could help the county learn how best to grow back one of the lagoon's most impressive natural filters. One adult oyster can filter up to 50 gallons a day. The county and Brevard Zoo hope to create as many as 1,000 oyster gardening sites, providing lagoon waterfront dwellers with as many as 1,000 free seed oysters each. In three to six months, the 1 million mature oysters could filter 25 million to 50 million gallons of lagoon water daily, enough to fill 40 to 80 Olympic pools. Brevard chipped in \$150,000 to start the program and hopes for state grants to expand the effort. But they had worried that current water quality might not be good enough to support oysters. But the growth of the first round of oyster beds seems to put that concern to rest. "The lagoon is healthy enough for us to start repopulating it with oysters," Barker said. Oyster beds provide food to many animals, habitat for other invertebrates and fish, and prevent erosion by holding sediments in place. Interested volunteers should contact the Brevard Zoo, which launched the oyster gardening project in partnership with the county.... For the complete article, see <http://www.floridatoday.com/story/news/local/2014/04/12/lagoon-oyster-program-sees-phenomenal-results/7628795/>



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



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

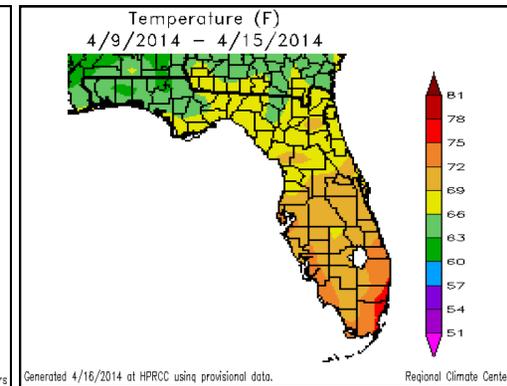
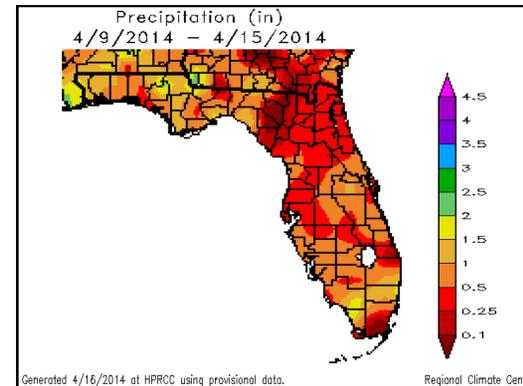
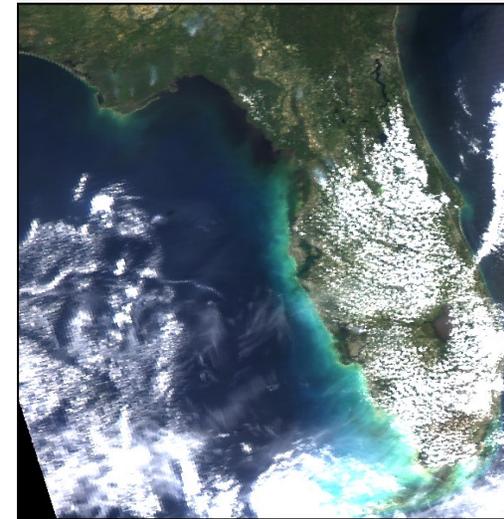
## Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 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 - 04/09/14 to 04/15/14

- 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.

April 10, 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)