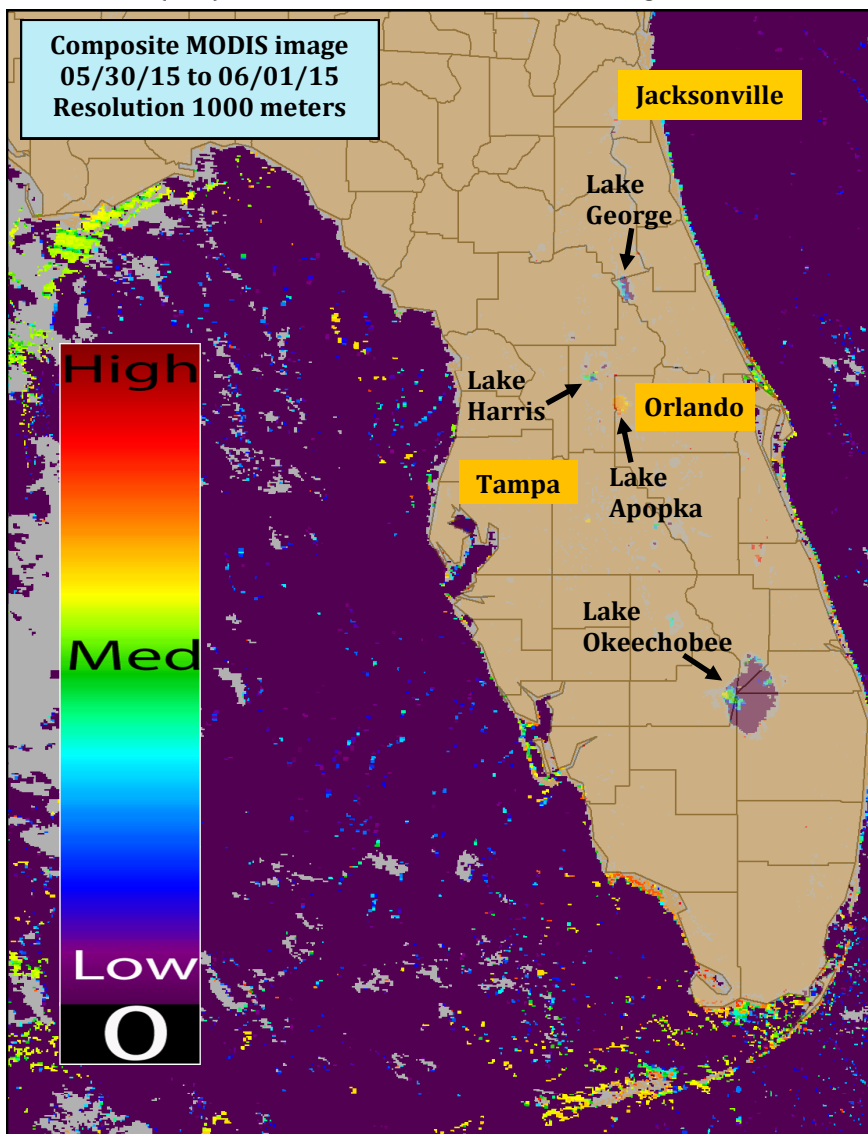


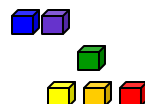
To report an illness related to a freshwater, estuarine, marine toxin or harmful algal bloom, please contact the Florida Poison Information Center at 1-800-222-1222.

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. This report was produced through a collaboration between the Florida Department of Health Water Toxins Program (WTP) and the NOAA Center for Coastal Monitoring and Assessment.



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

- As shown in the true color image on page 2, cloud cover and glint were present around various areas of the state throughout the imagery period.
- Lake George (Volusia County) displayed low to medium estimated elevated chlorophyll-a concentrations.
- Lake Harris (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Apopka (Orange/Lake Counties) displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Okeechobee (Okeechobee/Glades/Hendry/Palm Beach/Martin Counties) displayed medium estimated elevated chlorophyll-a concentrations.

App will show level of algae in water

The Columbus Dispatch

By Jessica Wehrman Posted: Monday June 1, 2015 4:26 AM

WASHINGTON-- The same technology that allows you to consult your phone to figure out when a big storm is moving in could soon help you decide the best places to fish and swim. The U.S. Environmental Protection Agency is using satellite technology for an app it's developing that's aimed at helping both water-quality managers and, eventually, the public, determine the level of toxic algae in their water sources. They're in the process now of beta-testing the app with staff at the EPA. The next step will be to send it to designated water-quality managers in Ohio and Florida to have them test it for any bugs, said Blake Schaeffer, an assistant lab director for the National Exposure Research Lab at the EPA. It's technology spawned by last summer's issues in Lake Erie. For more than two days in August, Toledo residents were barred from drinking tap water because of a toxic algae contamination. Schaeffer said while satellite data can help people determine the safety of their water, that information is "not accessible to people who need to make decisions like water quality managers." ... He and other EPA scientists were inspired by the weather apps that allow people to look at satellite imagery online to figure out what the weather will be.... With the help of the U.S. Geological Survey, the National Oceanic and Atmospheric Administration and NASA, they began developing the app. When it's complete, he said, users can drop a pin into a specific location and watch the pin change colors depending on the concentration of algae bloom. Green will mean the water's safe. Red, he said, should be avoided, and the water-quality manager should take action. Yellow might mean a water-quality manager can begin taking action to make the water safer. Ideally, he said, they'll also be able to track how the water is changing by looking at data week by week to make some sort of forecast as to whether an algae bloom will get better or worse. The app is initially designed for water-quality managers but, Schaeffer said he is hopeful that in the long term, it will also be useful to the general public. Because it will track everything from water clarity to temperature, swimmers and divers might find the information on the app useful as well.... They hope to have it rolled out within the calendar year. The full article is available at <http://www.dispatch.com/content/stories/local/2015/06/01/app-will-show-level-of-algae-in-water.html>.

Marine Update: *Karenia brevis*

Red Tide Status - FWC/FWRI 6/5/2015: *Karenia brevis*, the Florida red tide organism, was found in background concentrations in one sample collected offshore of Collier County. Additional samples collected throughout Florida this week did not contain *K. brevis*. For additional information, see <http://myfwc.com/research/redtide/statewide/>.

Red Tide Health Effects - NOAA 6/1/2015: There is currently no indication of *Karenia brevis* along the coast of southwest Florida, including the Florida Keys. No respiratory irritation is expected alongshore southwest Florida Monday, June 1, through Monday, June 8.

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations.

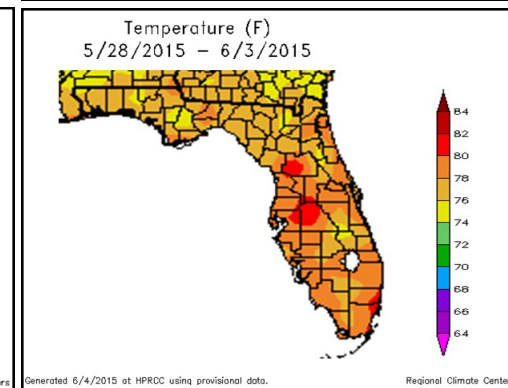
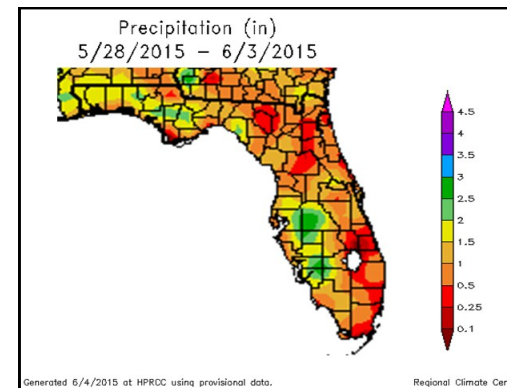
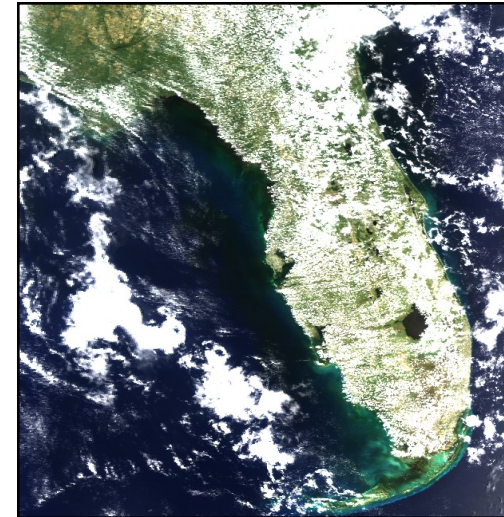
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 - 05/28/15 to 06/03/15

- 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.

**MODIS True Color Image
May 30, 2015**



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:
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