

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.

January 5, 2014
MODIS Aqua
Resolution 1100 meters

Jacksonville

Orlando

Tampa

Lake Harris
Lake Eustis



CyanoHAB Conditions Report

- Lake Harris and Lake Eustis (Lake County) displayed medium/high estimated elevated chlorophyll-a concentrations.
- Other large water features in Florida were unremarkable on the 1100 meter resolution MODIS image.

Judge sides with feds ... on pollution limits



01/07/2014



A federal judge on Tuesday sided with Florida and the **U. S. Environmental Protection Agency** on their agreement in 2013 allowing the state to set water quality standards in waterways ... Industry groups and legislative leaders criticized a 2009 agreement between the EPA and environmental groups calling on the federal agency to set limits for nitrogen and phosphorus, called numeric nutrient criteria. In 2013, the Legislature passed **SB 1808** backing an agreement with the federal EPA calling for the state instead to set limits ... In September, environmental groups that had sued the EPA argued against the federal agency's request to modify the 2009 consent decree and allow approval of the water quality standards.

But **U. S. District Judge Robert L. Hinkle** on Tuesday ruled against those groups, which include the **Florida Wildlife Federation**, the **Sierra Club** and the **St. Johns Riverkeeper**. Hinkle said setting pollution limits for streams in Florida "had proven elusive" but the Florida DEP and the federal EPA now agree that a new approach meets the requirement of the federal Clean Water Act. ... **David Guest**, an attorney for the **Earthjustice** law firm representing the environmental groups, had argued in court that state rules allow waterways to remain on a "study list" without being cleaned up. He blamed algae blooms in the St. Johns River, the Indian River Lagoon, Tampa Bay and other waterways on lax enforcement. "Florida's clean water regulations just aren't working, and we need EPA to step in and do the job," Guest said. "We have so much sewage, fertilizer, and manure contamination that we have toxic slime outbreaks happening all over the state ...

DEP issued a statement saying that the judge's decision allows the state's rules to be implemented. "This is the necessary catalyst to move beyond litigation and end needless delays that prevented us from applying these additional protections," the department said.

**** 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.**

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

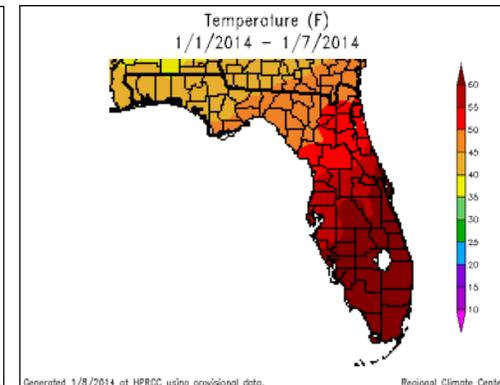
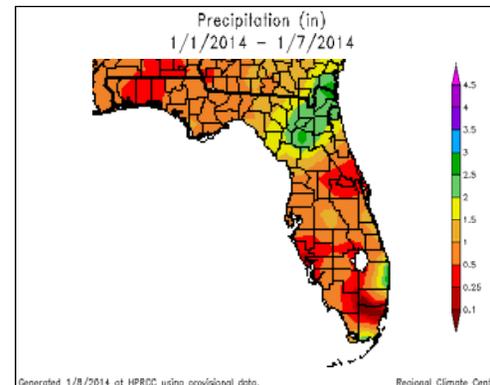
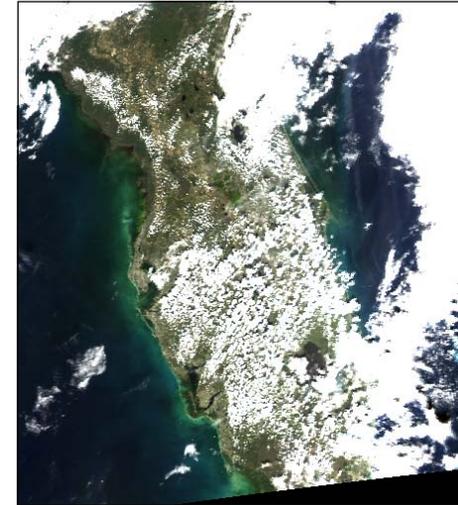
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 - 01/01/14 to 01/07/14

- 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.

January 5, 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/perspectives>

For information, please contact: Andrew Reich, Public Health Toxicology Program at 850.245.4187 or andy.reich@flhealth.gov