

Inland Harmful Algal Blooms Health Bulletin: March 13, 2014





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.
- Lake Harris (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.

Environmental groups to challenge federal judge's ruling ...

Environmental groups to challenge federal judge's ruling allowing state water quality rules **Smartly Covering Politics & Policy**

March 6, 2014 - Environmental groups on Thursday filed a notice in federal court that they are appealing a federal judge's order in January siding with Florida and the U.S. Environmental Protection Agency on their agreement in 2013 allowing the state to set pollution standards in waterways. The appeal may prevent the Florida Department of Environmental Protection from moving forward with state rules approved by the federal court and the federal EPA, DEP spokesman Patrick Gillespie said. The Legislature in 2013 passed SB 1808 ratifying an agreement between DEP and the federal EPA calling for the state to move forward in implementing rules once federal water quality standards were withdrawn. The appeal on Thursday was filed in the 11th U.S. Circuit Court of Appeals in Atlanta on behalf of the Florida Wildlife Federation, the Conservancy of Southwest Florida, the Environmental Confederation of Southwest Florida, St. John's Riverkeeper and the Sierra Club. Earthjustice attorney David Guest said the groups are challenging Florida's "polluter-friendly" rules. DEP Secretary Herschel T. Vinyard Jr. said Thursday that he was "deeply disappointed" by the appeal, which he said likely will prevent the department from implementing the most comprehensive water quality standards in the nation On Thursday Guest told The Florida Current that the appeal does not prevent the state or federal EPA from taking action. On Jan. 7, U.S. District Judge Robert Hinkle said setting pollution limits for streams in Florida "had proven elusive" but DEP and the federal EPA now agree that a new approach meets the requirement of the federal Clean Water Act. He said a 2009 consent decree requiring EPA to set those numeric nutrient criteria did not affect the rights of industry groups to challenge the outcome. And he said the requested change does not affect the same rights of environmental groups. "Now, as then, the Clean Water Act depends in part on honest administrative enforcement of duly adopted standards," Hinkle wrote. "At least as shown by this record, FDEP's new standards have been duly adopted."

See http://www.thefloridacurrent.com/article.cfm?id=36733277

** Due to background levels of *K. brevis* off Florida's SW coast, status reports for Florida red tide will be 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 HAB 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 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 - 03/04/14 to 03/10/14

- 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.

March 9, 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: Laura Morse, Public Health Toxicology Program at 850.245.4444 x 2080 or laura.morse@flhealth.gov