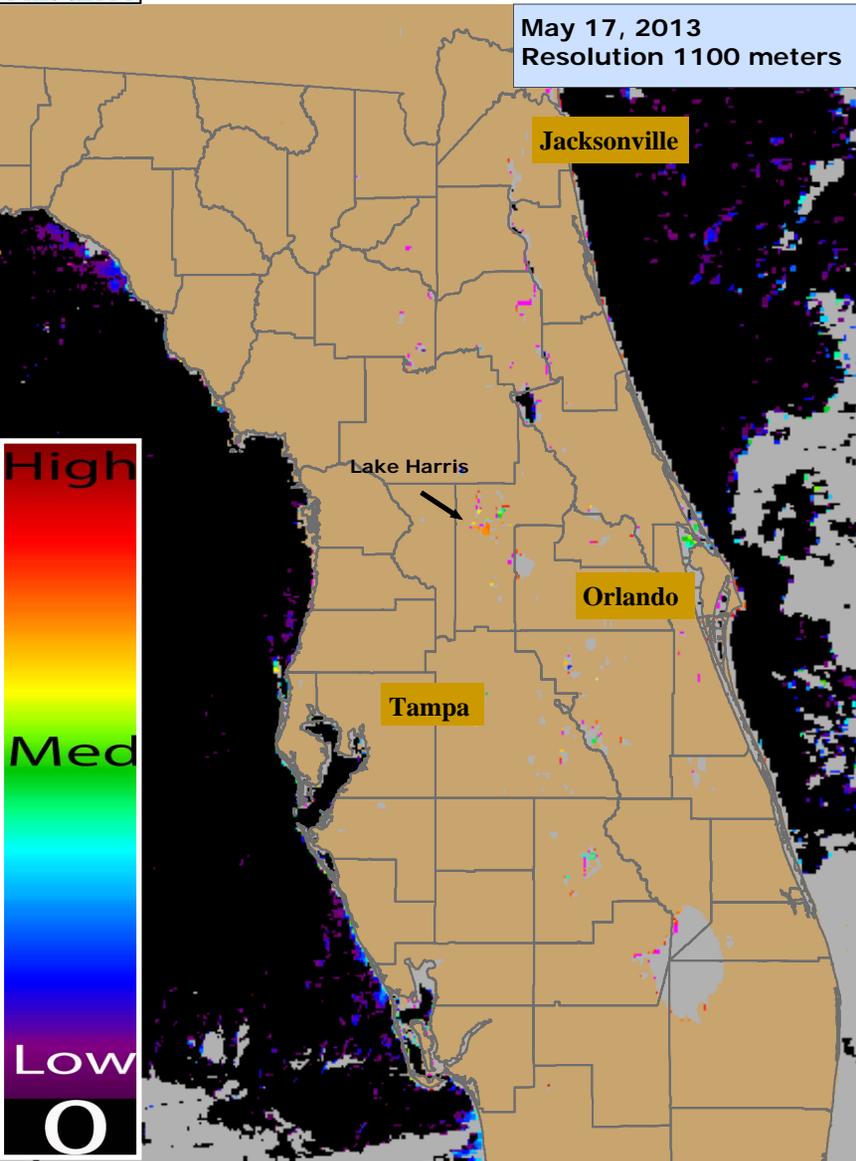


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222. Images/data obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report from NOAA/NASA Contract NNH08ZDA001N.



May 17, 2013  
Resolution 1100 meters

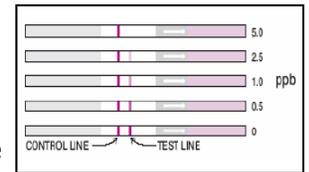
## Inland HABS Conditions Report: May 23, 2013

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

## Florida DEP : Detection of MYC with Strip Test (annotated)

[The project] goal was to determine performance of the 10 ppb Abraxis Microcystin Strip Test with Quicklyse™ for recreational water. Toxin and non-toxin producing cultures of *Microcystis aeruginosa*, as well as samples collected from actual algal blooms, [were] used to assess the kit's potential for correctly detecting the presence of microcystins. The results of the strip test agreed with the results of the LC/MS-MS except for the Munson culture ... A likely explanation for the discrepancy in the strip test result and the LC/MS-MS analysis is the Munson culture is now producing microcystin congeners other than microcystin-LR and microcystin-RR.

For diluted cultures, the strip tests were able to detect microcystins below 10 µg/L ...



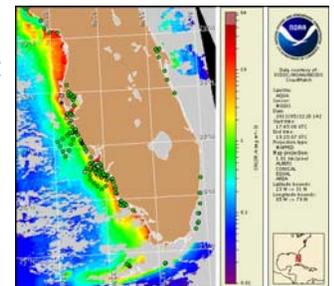
[Environmentally] collected samples [were also evaluated]. The strip tests detected microcystins from a *Microcystis aeruginosa* bloom and did not detect microcystins in another non-*Microcystis* bloom.

Please contact Lori Wolfe at [Loretta.Wolfe@dep.state.fl.us](mailto:Loretta.Wolfe@dep.state.fl.us) for additional information. See <ftp://ftp.dep.state.fl.us/pub/outgoing/biology> for a copy of the study.

## K. brevis background to low concentrations off Southwest FL

**Red Tide Update - FWRI/FWC (May 22):** *K. brevis* was detected at background to very low concentrations in several samples collected alongshore of Pinellas, Manatee, Sarasota and Lee counties so far this week. Sampling will continue this week, and complete results will be available in the next scheduled status report on Friday, May 24. See: <http://myfwc.com/research/redtide/events/status/statewide/>

**NOAA Conditions Report - (May 23):** *K. brevis* ranges from not present to very low concentrations in southwest Florida, including the Florida Keys. No respiratory impacts are expected alongshore southwest Florida today through Tuesday, May 28. There is currently no indication of bloom level concentrations long the coast or offshore southwest Florida, including the Florida Keys. To read the full NOAA conditions report, visit: <http://tidesandcurrents.noaa.gov/hab/bulletins.html>



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: 5/15/2013 to 5/21/2013 Temperature and Precipitation

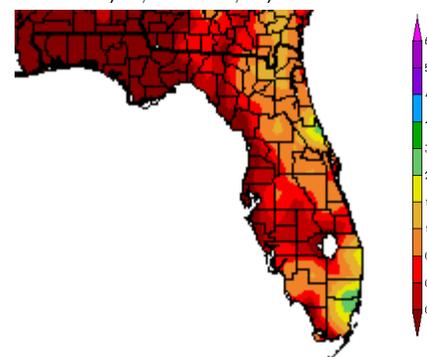


May 17, 2013  
MODIS True Color Image

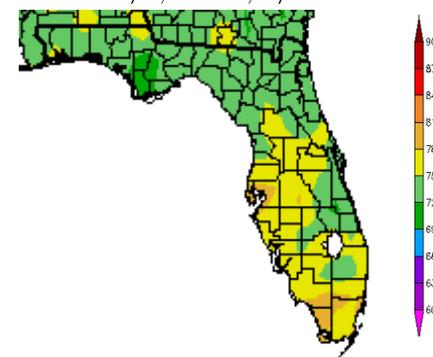


- Weather conditions can impact the duration and location of blooms and the satellite imagery shown in this report may no longer be relevant.
- Images represent the last image taken with a realization that blooms may have moved, dissipated or intensified.
- Cloud coverage can obscure imagery and create patches or gray areas on map and obscure bloom detection.

Precipitation (in)  
5/15/2013 - 5/21/2013



Temperature (F)  
5/15/2013 - 5/21/2013



Generated 5/22/2013 at HPRCC using provisional data.

Regional Climate Centers Generated 5/22/2013 at HPRCC using provisional data.

Regional Climate Centers

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/>



**For Individual Weather Station Data-Visit:**  
<http://www.sercc.com/perspectives>

**Questions about the bulletin or suggestions- Contact**  
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