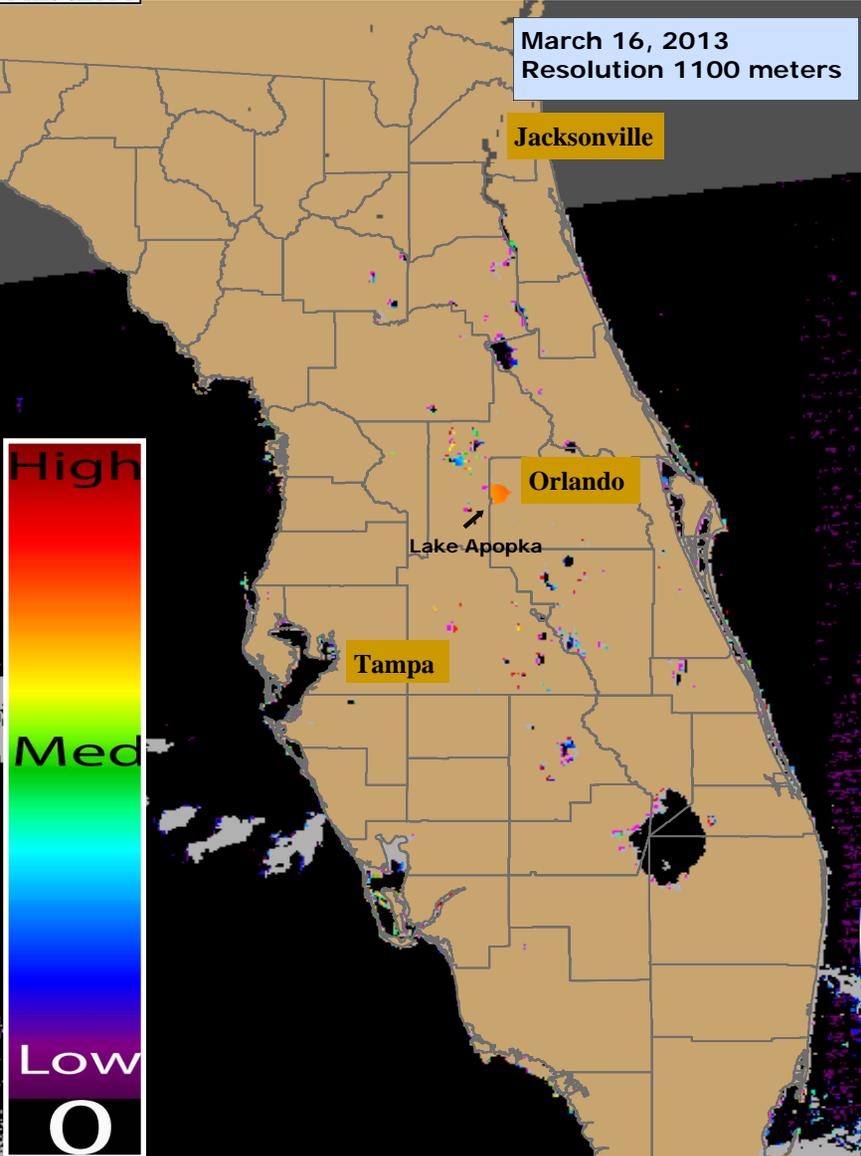


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222.
 Images/data obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National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



March 16, 2013
 Resolution 1100 meters

Inland HABs Conditions Report: March 21, 2013

- Lake Apopka (Orange and Lake Counties) displayed high estimated elevated chlorophyll-a concentrations.
- Other areas of color are small and only represent single pixel resolution.



Lake Apopka

7th Symposium on Harmful Algae in the US; Sarasota, Florida

The 7th Symposium on Harmful Algae in the US will be held in Sarasota, Florida, **October 27-31, 2013**. Students, established HAB researchers and policy makers, managers and scientists from NGO, academic institutions, and local, state and federal agencies are invited. Those working on HAB issues are encouraged to attend the only national conference focused exclusively on HABs. Whether your focus is freshwater or saltwater, microalgae or macroalgae, basic research or policy and management, this conference is relevant to you.

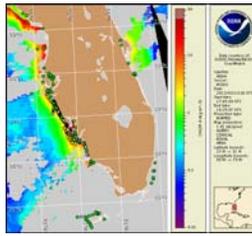


Presenting authors must register by the abstract and early registration deadline of **May 24, 2013**. A number of generous sponsors have provided travel funds to support participation of students, post-docs, and managers.

See: <http://www.mote.org/index.php?src=gendocs&ref=HABSymposium&category=Ecotoxicology>

Marine Update: *K. brevis* bloom lessens off Southwest Florida

Red Tide Update - FWRI/FWC (March. 20): A *Karenia brevis* bloom persists in the Pine Island Sound system in very low to medium concentrations. Very low concentrations were also detected alongshore of southern Charlotte County and offshore of Sarasota County.



See: <http://myfwc.com/research/redtide/events/status/statewide/>

NOAA Conditions Report - (March. 21): Very low to medium conc. of *K. brevis* are present alongshore and offshore SW Florida. In the bay regions of Charlotte and Lee counties, patchy moderate respiratory impacts are possible today through Monday. No respiratory impacts are expected elsewhere alongshore southwest Florida, including the Florida Keys, today through Monday, March 25.

See: <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.

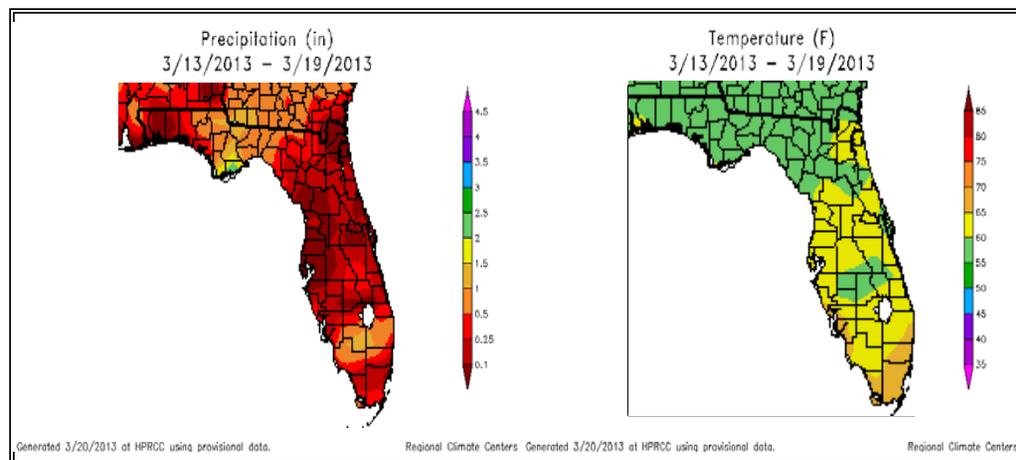
Weather Conditions: 2/13/13 - 2/19/13 Temperature and Precipitation



March 15, 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.



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
Andrew Reich, MS, MSPH
850.245.4187
andy_reich@doh.state.fl.us