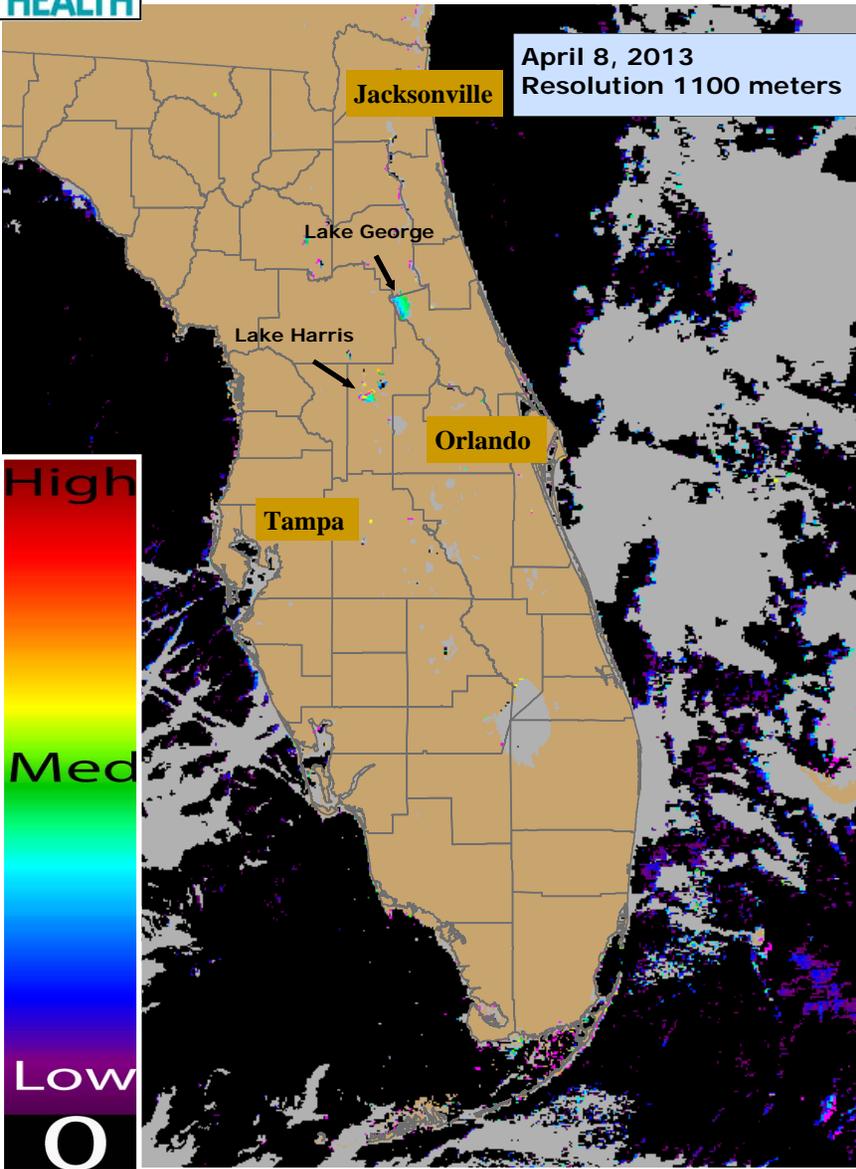


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222.
 Images/data obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National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

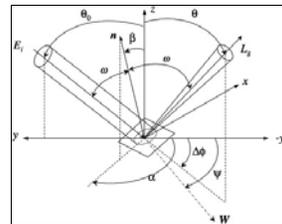


Inland HABs Conditions Report: April 11, 2013

- Lake George (Volusia and Putnam Counties), displayed medium estimated elevated chlorophyll-a concentrations.
- Lake Harris (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.
- SJRWMD noted a yet unidentified bright green algal bloom in the Ocklawaha River yesterday; due to resolution images, it cannot be seen on MODIS imagery.

Sun Glint and its Effects on Available MODIS Imagery

Glint is the specular reflection of sunlight off the sea surface. Its signal is so much greater than the sunlight reflected from below the surface that retrieval of information about in-water constituents by direct measurement is severely compromised, often impossible. Glint can occur in spring and summer when the sun is in the northern hemisphere. Depending on the orbit, every several days Florida is in line to reflect sunlight from water surface to satellite. Florida can be just off the edge of the satellite swath on one day and glinted on the next. MODIS does not tilt to avoid looking into the sun glint field. Sentinel-3 sensor (due for launch in 2014) is designed to miss more glint; it should be superior to the current MODIS sensor.

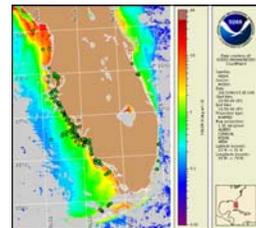


(Image and some narrative from <http://dx.doi.org/10.1016/j.jqsrt.2009.10.001>)

Marine Update: *K. brevis* conc. very low off Southwest Florida

Red Tide Update - FWRI/FWC (April 10): *Karenia brevis* was detected at very low concentrations in only one sample (of 74) analyzed so far this week from southwest Florida. In other parts of Florida, *K. brevis* was not detected in samples collected inshore of the Indian River Lagoon (Brevard County) and Franklin County or alongshore of Duval and Broward counties. Sampling will continue this week, and complete results will be available in the next scheduled status report on Friday, April 12
 See:

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



NOAA Conditions Report - (April 11): Recent sampling throughout southwest Florida continues to indicate that *K. brevis* concentrations are dissipating. Samples collected over the past week identified only one 'background' *K. brevis* concentration in Pinellas County. All other samples collected alongshore southwest Florida from Pinellas to Monroe counties, and offshore Lee County, indicate that *K. brevis* is not present. Variable winds forecasted today through Monday may reduce the potential for transport of *K. brevis* concentrations along the coast of southwest Florida. 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.

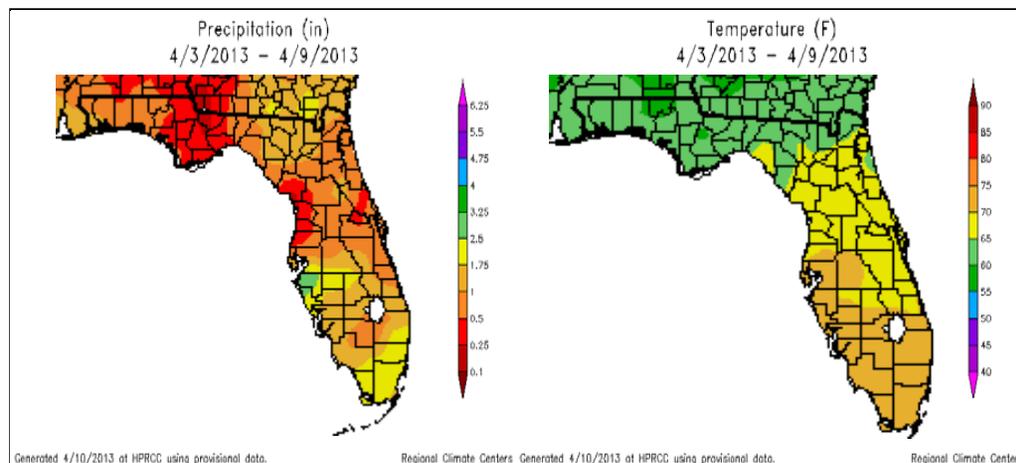
Weather Conditions: 4/3/13 to 4/9/13 Temperature and Precipitation



April 8, 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, Aquatic Toxins Program
850.245.4187
andy_reich@doh.state.fl.us