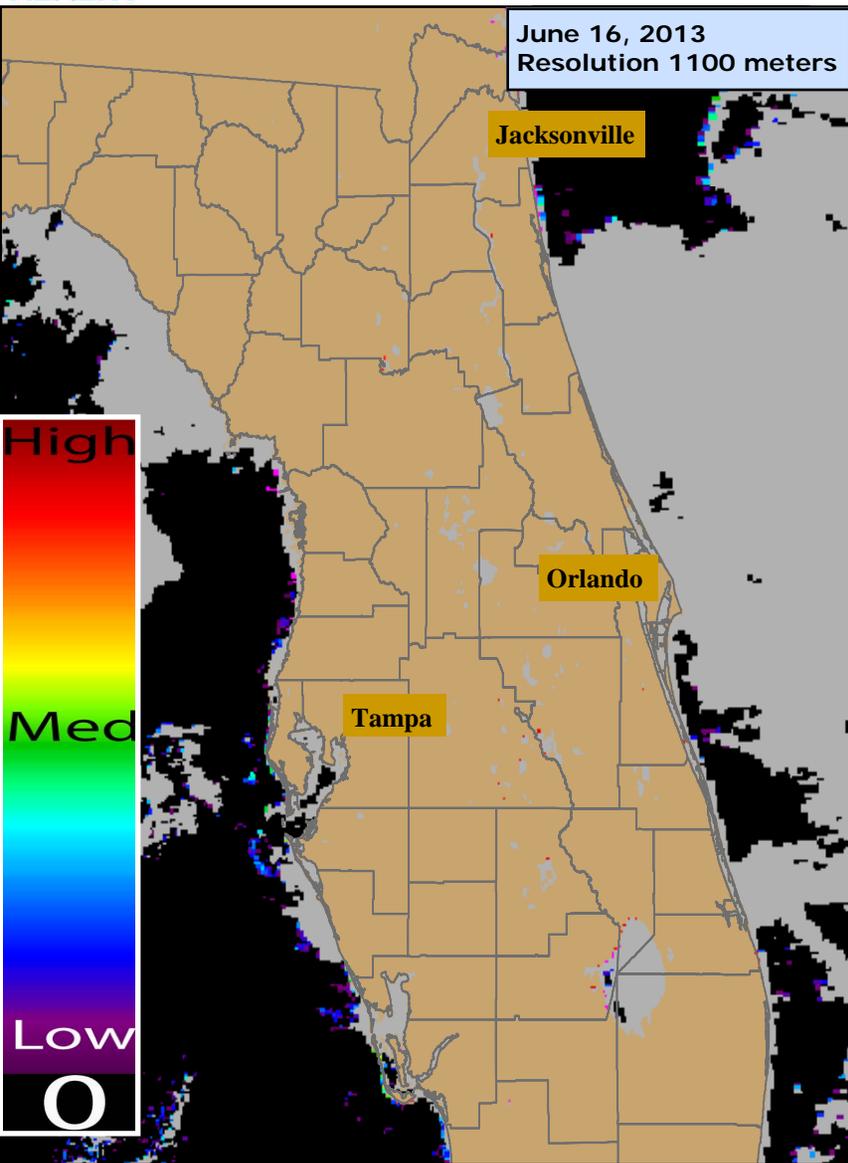


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222.
 Images/data obtained from Florida Fish and Wildlife Research Institute, Florida Water Management Districts, National Oceanic and Atmospheric Administration (NOAA), NOAA National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



June 16, 2013
 Resolution 1100 meters

Jacksonville

Orlando

Tampa



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

Inland HABs Conditions Report

- Large water features in Florida were unremarkable on the 1100 meter resolution MODIS image.

"Brown algae threatens fishing, may be killing wildlife in lagoons"



"Lately, Brown and his fishing clients don't see many good days. Instead, his boat motors through water the color of split-pea soup, clouded by a harmful brown algae bloom. In some areas, he's lucky to see the bottom. Fish are harder to find. Sea grass beds are shrinking. Manatees, dolphins, pelicans and other animals are dying of unexplained causes. So far the death toll since late last summer has reached 111 manatees, 38 dolphins and more than 250 pelicans.



Fishing guide Dave Brown, seated at left, and a couple of clients fish in the coffee-colored water from a brown tide bloom in Mosquito Lagoon Thursday June 13, 2013.

Dozens of guides and fishermen that make their living in Mosquito Lagoon and larger, neighboring Indian River Lagoon can still fish, said Brown, a guide for more than 30 years. "But it's not like it used to be." The fishermen fear for the lagoons, their own livelihoods and the local economy."

For complete story, see: <http://www.news-journalonline.com/article/20130615/NEWS/306159997/1040?Title=Brown-algae-threatens-fishing-may-be-killing-wildlife-in-lagoons#>

K. brevis at background concentrations off Southwest FL

Red Tide Update - FWRI/FWC (June 14): *Karenia brevis* was detected in background to very low concentrations in only two samples collected inshore of Manatee County this week. All other samples collected this week alongshore, inshore or offshore of southwest Florida did not contain *K. brevis*.

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

NOAA Conditions Report - (June 10): *Karenia brevis* was found in background concentrations in one sample collected alongshore in Pinellas County and in background to very low concentrations in Sarasota County. All other samples collected indicate that *K. brevis* is not present. No dead fish or reports of respiratory irritation associated with *K. brevis* have been reported in the past week. NOAA Conditions Report now issued once/week due to non-bloom conditions. To read the full NOAA conditions report, visit: <http://tidesandcurrents.noaa.gov/hab/bulletins.html>

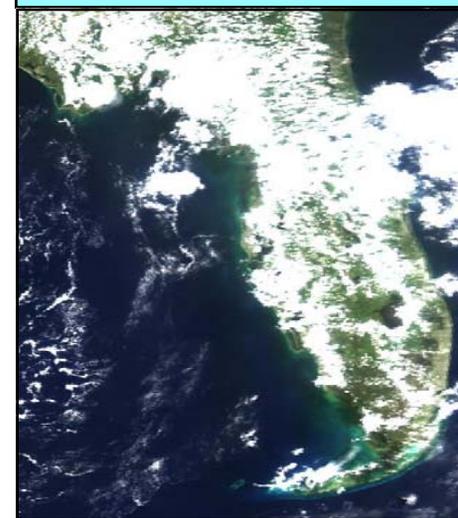
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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.

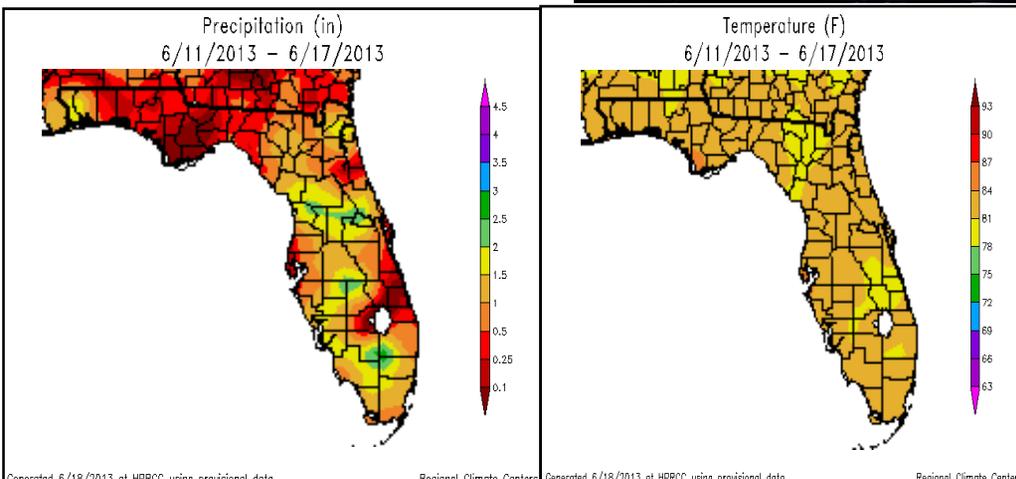
Weather Conditions: 6/11/2013 to 6/17/2013 Temperature and Precipitation



June 16, 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