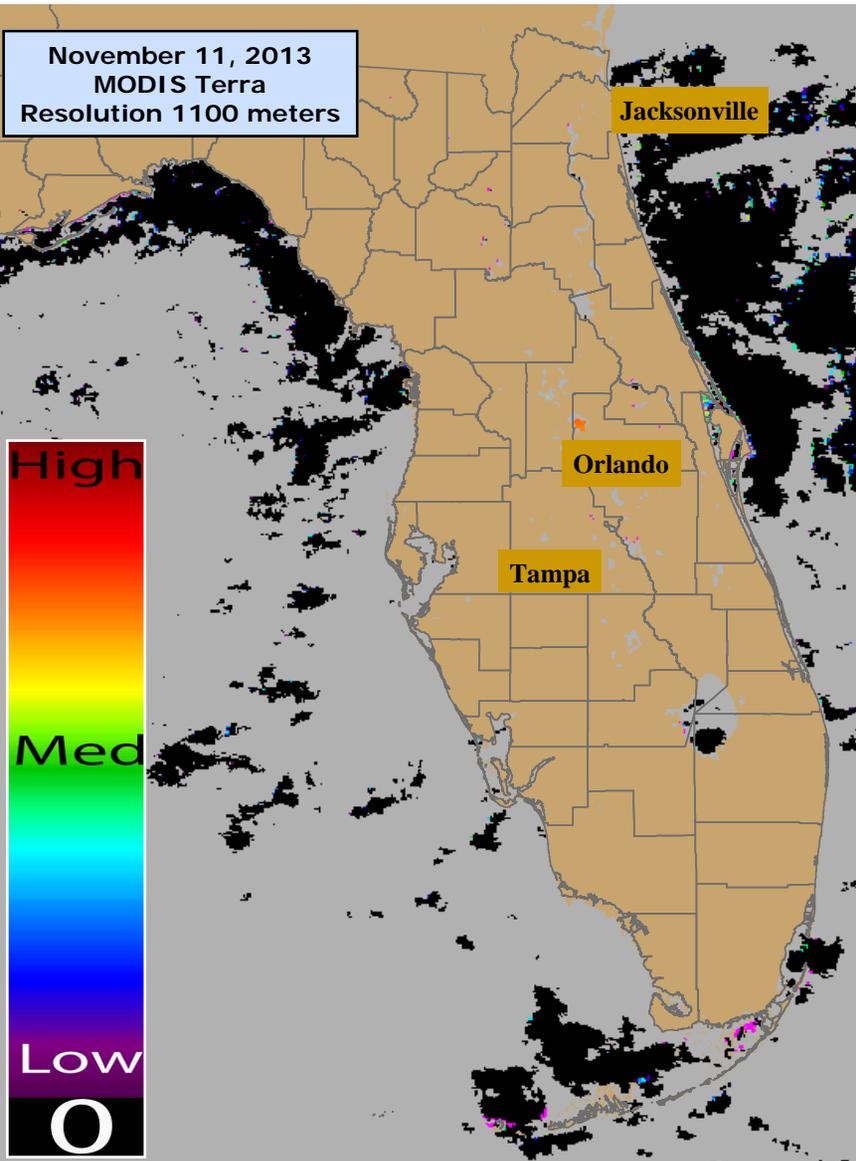


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222.

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.



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 CyanoHAB Conditions Report

- Lake Apopka (Orange/Lake Counties) displayed a high estimated elevated chlorophyll-a concentration.

Dolphin Die Off, Morbillivirus - USA: (East Coast)



November 8 2013



The deadliest known outbreak of a measles-like virus in bottlenose dolphins has killed a record number of the animals along the US Atlantic coast since July...753 bottlenose dolphins have washed up from New York to Florida... That is more than 10 times the number of dolphins that would typically turn up dead along East Coast beaches, said Teri Rowles, program coordinator of the NOAA Fisheries Marine Mammal Health and Stranding Response Program...There is no evidence that cetacean morbillivirus can cause disease in people. However, sick dolphins can also have bacterial or fungal infections that do pose risks to people, so beach-combers are advised not to approach stranded animals but rather to call a local stranding network for help. The virus spreads among dolphins in close contact. [From promed@promedmail.org] More information about the current event can be found at: <http://www.nmfs.noaa.gov/pr/health/mmume/midatldolphins2013.html>

Update: SW Florida Coast and Indian River Lagoon

Red Tide Update - FWRI/FWC 11/8/13: *K. brevis* was detected in water samples collected this week ranging from background to medium concentrations at several locations in and alongshore of southern Sarasota County south to Charlotte County and in the Pine Island Sound system (Lee County), with the highest concentrations reported at Casperson Beach (Sarasota County). Additional samples collected in Florida waters this week did not contain *K. brevis*. Patchy blooms of various organisms including *Aureoumbra lagunensis* and *Takayama* species continue in the Indian River Lagoon system (Indian River Lagoon, Mosquito Lagoon, Banana River). These blooms have resulted in discolored water and fish kills in some locations.

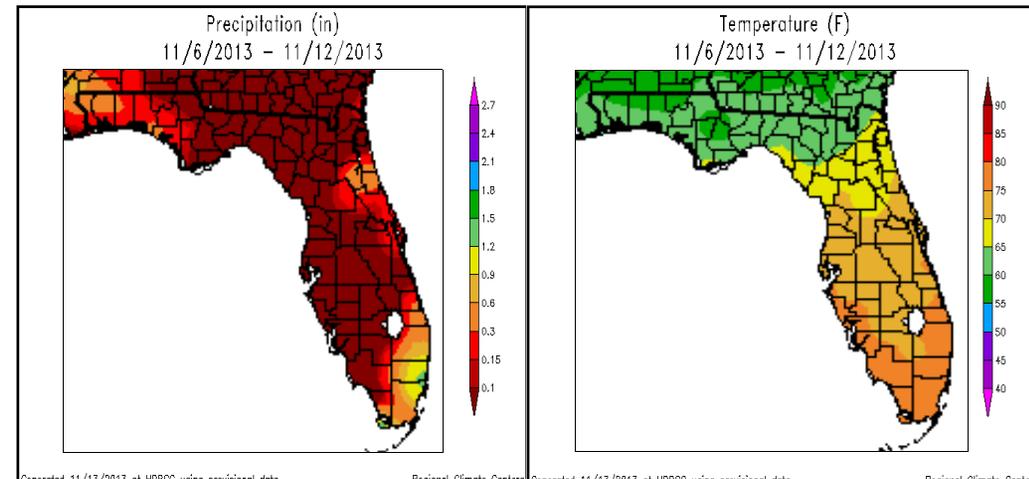
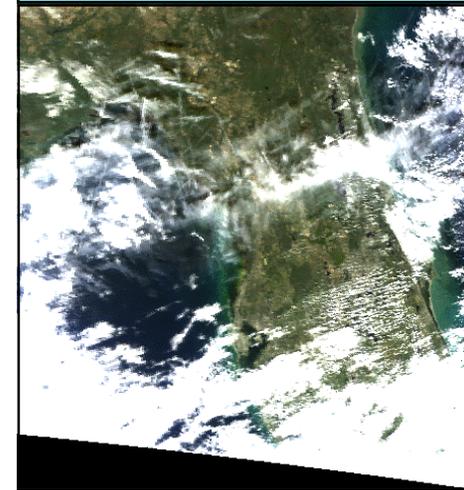
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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: Precipitation and Temperature - 11/06/13 to 11/12/13

- 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.

November 9, 2013
MODIS Terra 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/>



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