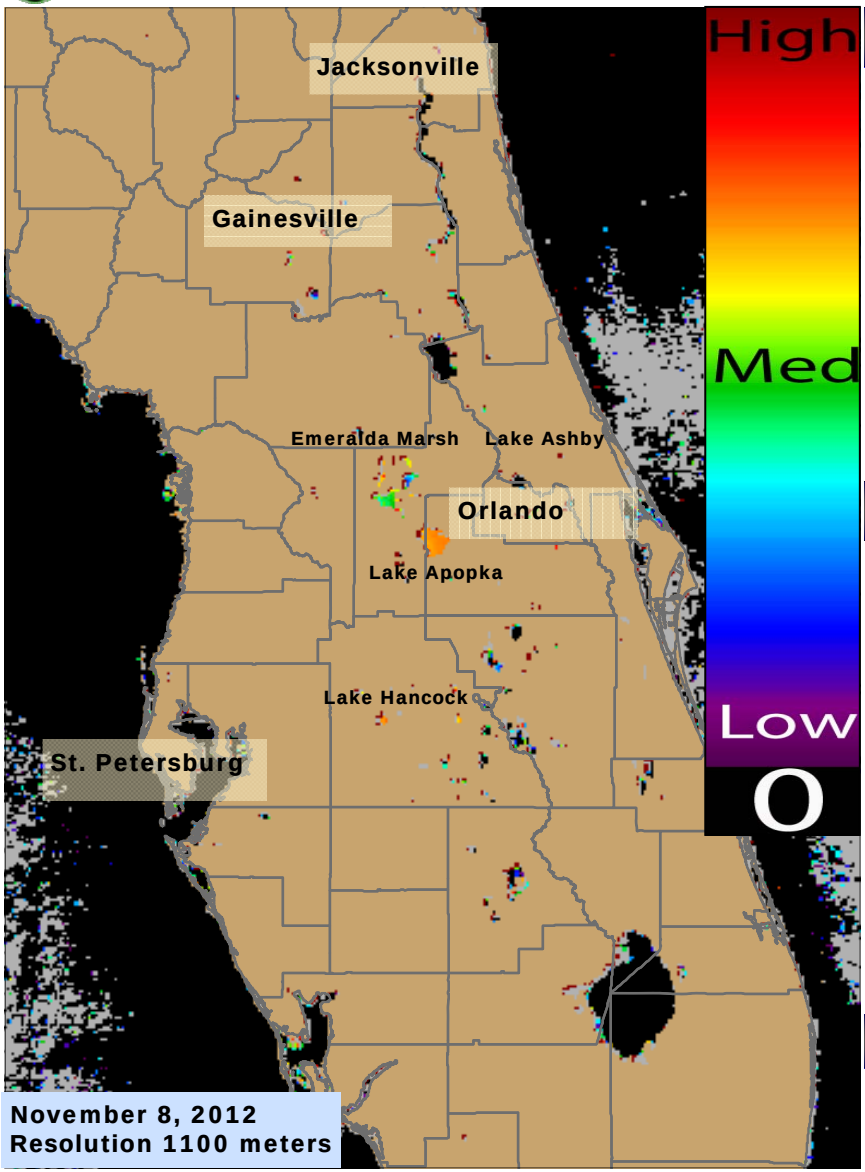
Inland Harmful Algal Blooms Health Bulletin: Nov 14, 2012

To report an illness related to a marine toxin or algal bloom please contact the Florida Poison Information Center-Miami Aquatic Toxins Hotline at 1-800-222-1222.
For questions about the report: contact Andrew Reich, FL-DOH, at 850.245.4187. Images/data were obtained from Florida Water Management Districts, The National Oceanic and Atmospheric Administration (NOAA), NOAA National Climatic Data Centers and National Weather Centers. Support to produce this report was received through a NOAA/NASA Agreement (Number: NNH08ZDA001N)



November 8, 2012
Resolution 1100 meters

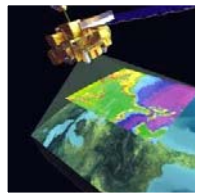
MODIS Images display a chlorophyll-a index generated with a Moderate Resolution Imaging Spectroradiometer provided by the National Aeronautics and Space Administration (NASA)

- 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: November 14, 2012

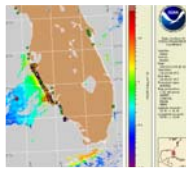
- Several lakes displayed elevated estimated chlorophyll-a concentrations in the Nov. 8th image.
- Lake Apopka (Orange/Lake Counties) ranged from medium to high estimated chlorophyll-a concentrations.
- The Emeralda Marsh area (Lake County) had a few water bodies with medium to high elevated estimated chlorophyll-a concentrations.
- Lake Ashby (Volusia County) displayed high elevated estimated chlorophyll-a concentrations.
- Lake Hancock (Polk County) displayed medium to high elevated estimates.

MODIS Satellite Imagery in FL



We recently had some changes with the satellite images featured in this bulletin. The Moderate Resolution Imaging Spectroradiometer or MODIS images we began using in Sept. 2012 may be used to detect an algal bloom and estimate its biomass, however, this type of satellite imagery cannot distinguish phytoplankton types and/or estimate cyanobacteria concentrations at this time. Biomass is an indicator used to estimate the amount of algae present, but onsite field observations and laboratory testing are required to confirm the species. While the new imagery is not as specific to blooms which are associated with public health concerns, we will try to provide additional information regarding bloom type and toxicity when available. When the MERIS sensor is operational again, we will resume including the cyanobacteria specific imagery in the bulletins. In the interim, if you no longer wish to receive the satellite health bulletins, you may email Becky Lazensky or Andy Reich to be removed from the distribution list.

Marine Update: High K. brevis concentrations detected



FWC/FWRI: A patchy bloom of *Karenia brevis*, the Florida red tide organism, continues along SW FL coast and offshore. From Manatee County through northern Sarasota County, the red tide organism was detected in very low to medium concentrations, with the highest concentrations detected in lower Tampa Bay on Tuesday. Red Tide Current Status Reports can be found at www.myfwc.com/research/redtide/events/status/. FWC/FWRI Fish Kill Hotline: 1.800.636.0511

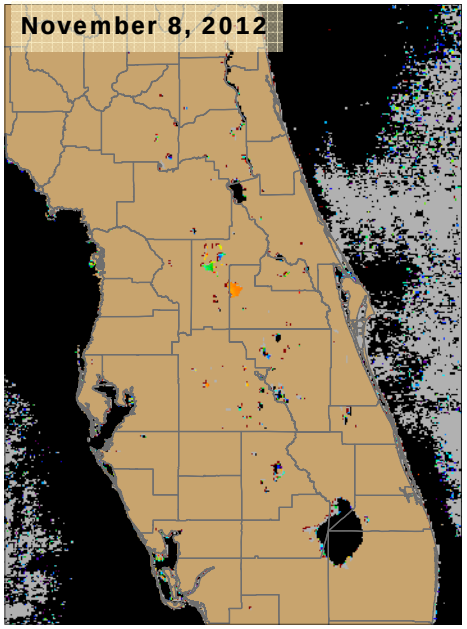
NOAA: Very low to high concentrations of Karenia brevis are present along and offshore from southern Pinellas to Collier counties. Low to high respiratory impacts possible throughout the affected area. Winds are favorable for possible intensification in southern Lee and Collier counties. NOAA HAB Reports: http://tidesandcurrents.noaa.gov/hab/

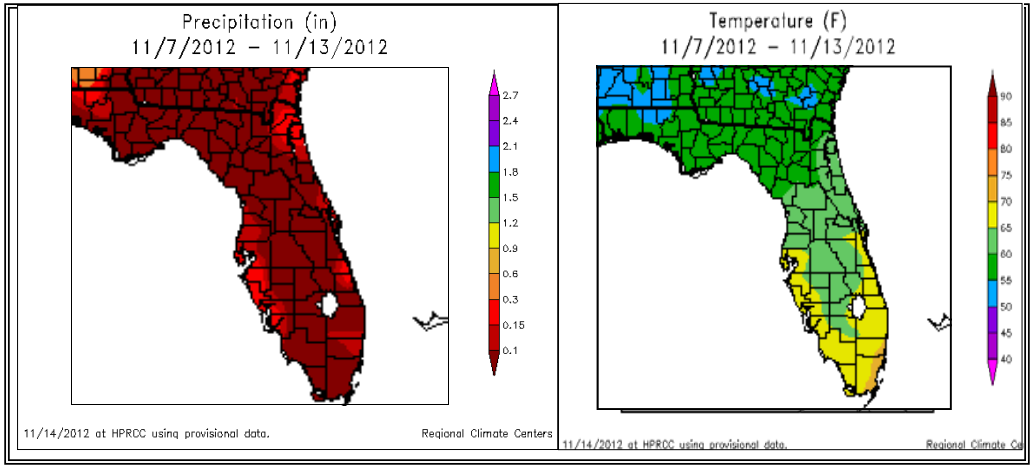
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 courser than MERIS, therefore only select larger water bodies in FL are visible using this technology.
- MODIS is better as depicting low to medium chlorophyll-a concentrations so once a potential bloom is depicted, a switch in algorithms may used to improve the visibility. MODIS has a few spectral bands which have higher resolution 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: 11/7/12 to 11/13/12 Temperature and Precipitation

- 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

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