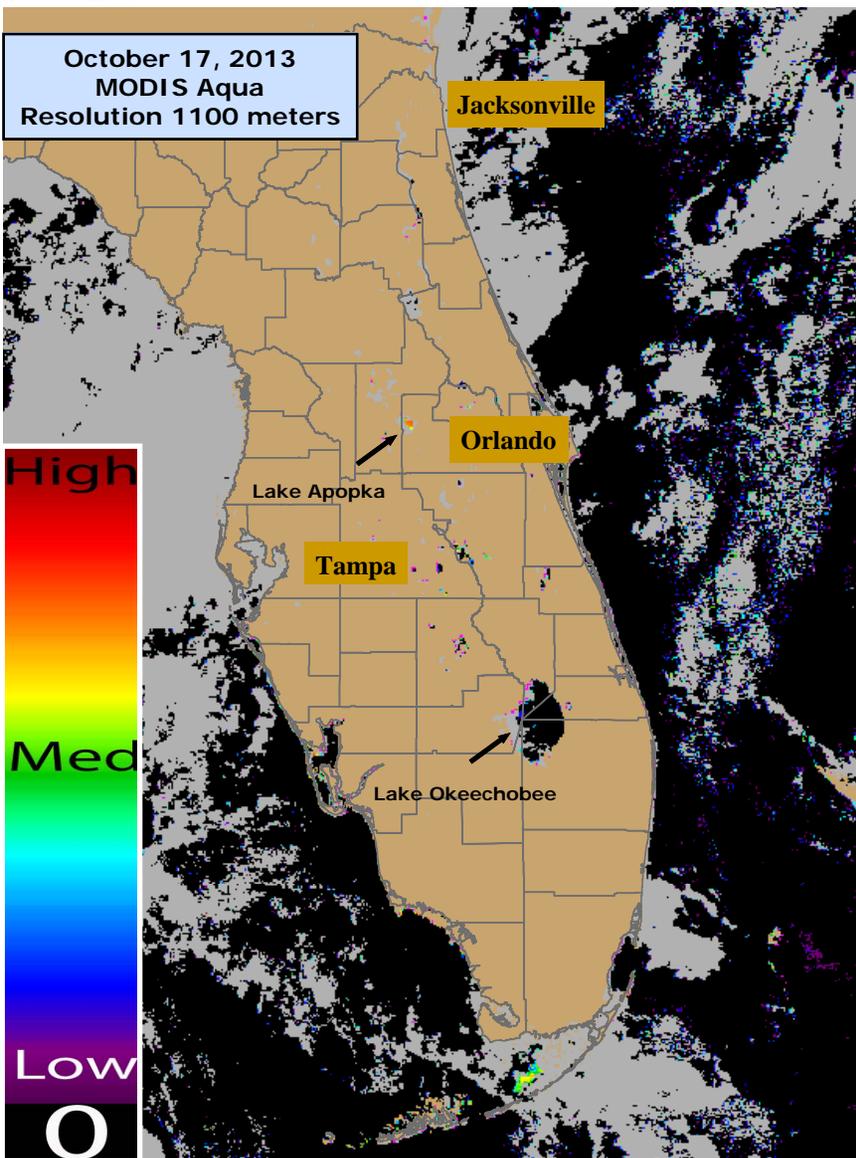


To report an illness related to a marine toxin or algal bloom contact the Florida Poison Information Center at 1-800-222-1222.

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 and Lake Counties) displayed medium/high estimated elevated chlorophyll-a concentrations.
- Other major surface water features in the state were not remarkable.

## Algae blamed in elk deaths last August (New Mexico)



October 23, 2013



(NM Department Game and Fish)

Tiny algae that produce a deadly nerve toxin were the cause of the deaths of more than 100 elk in northeastern New Mexico back in August, according to the state Game and Fish Department. It's thought that the thirsty herd drank from a water trough on the Buena Vista Ranch north of Las Vegas, N.M., that harbored the blue-green algae, or cyanobacteria, said Kerry Mower, the department's wildlife disease specialist. The tricky thing about the diagnosis, he said, is that the suspect toxin is very unstable and generally can't be detected in tissue samples of the dead animals, or even in the water if it's tested at a later time. As a matter of fact, some other animal could have drunk from the same trough the next day and been fine, because both light and wind can quickly cause the toxin to degrade, he said, adding that the ranch's troughs have been drained and cleaned since the dead elk were discovered on Aug. 27. "The evidence for this is circumstantial, but it makes a lot of sense," Mower said, noting the elk carcasses showed signs of struggle on the ground that would be consistent with nerve damage. The toxin can cause death within four to 12 hours of being ingested.

See: <http://www.abqjournal.com/286863/north/algae-blamed-in-elk-deaths-last-august.html>

**\*\* Due to background levels of *K. brevis* off Florida's SW coast, status reports for Florida red tide will be suspended until bloom concentrations re-occur.**

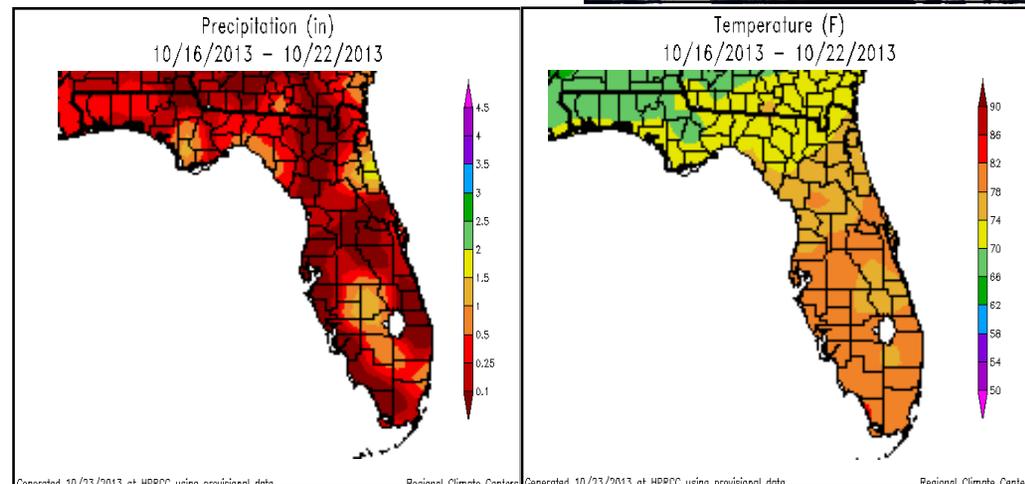
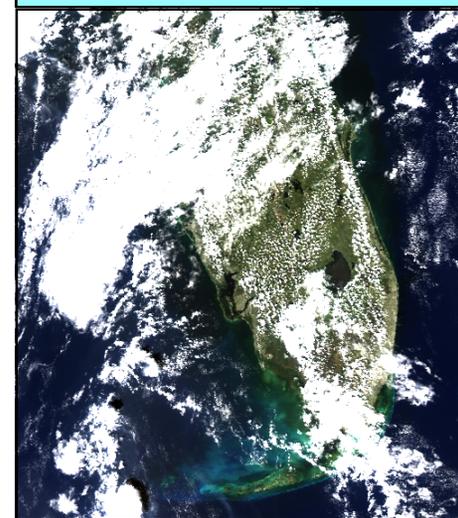
## Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 - 10/16/13 to 10/22/13

- 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.

October 19, 2013  
MODIS Aqua True Color Images



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**  
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