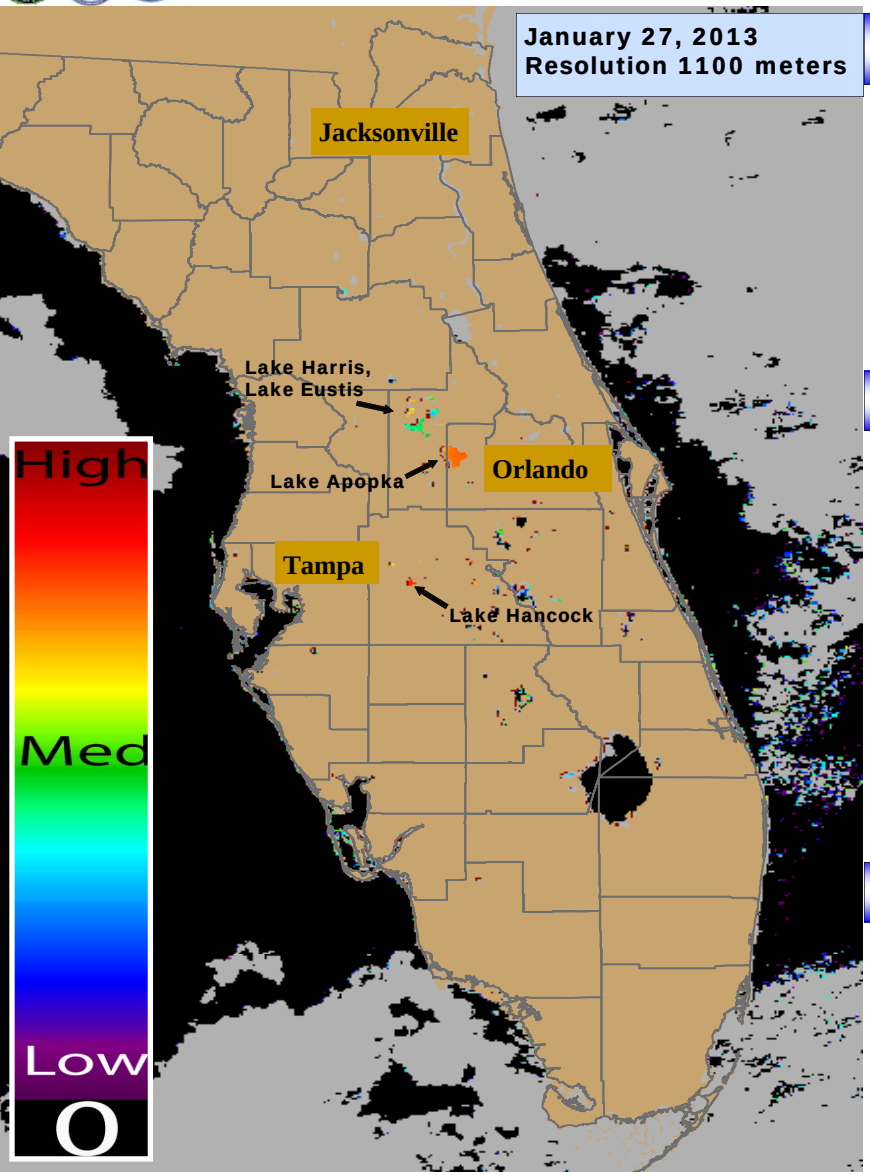
Inland Harmful Algal Blooms Health Bulletin: Jan. 31, 2013

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)

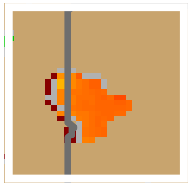


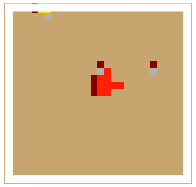
MODIS Images display a chlorophyll-a index generated with a Moderate Resolution Imaging Spectroradiometer provided by the National Aeronautics and Space Administration (NASA)

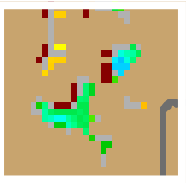
- Very low likelihood of a bloom
- May indicate clouds or missing data
- Low estimated chlorophyll-a concentrations
- Medium estimated chlorophyll-a concentrations
- Higher estimated chlorophyll-a concentrations

Inland HABs Conditions Report: Jan. 27, 2013

- Lake Apopka (Orange and Lake Counties) and Lake Hancock (Polk County) displayed high estimated elevated chlorophyll-a concentrations.
- Lake Harris and Lake Eustis (Lake County) displayed medium estimated elevated chlorophyll-a concentrations.


Lake Apopka


Lake Hancock


Lake Harris, Lake Eustis

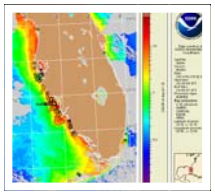
Microcystins Round Robin Study Available at FDEP

The Florida Department of Environmental Protection (FDEP) released a report on the second microcystin round robin conducted by the Bureau of Laboratories in 2009. It is posted on their website (link below) along with the report for the first 2007 round robin.

http://www.dep.state.fl.us/labs/biology/hab/index.htm

On the right side of the webpage, see "Highlights". The report is the second from the bottom on that list, "Microcystin Round Robin Study #2". The laboratories that participated in this round robin did so at their own expense and so please thank them for their contribution to this effort. Please contact Lori Wolfe, Environmental Manager, at loretta.wolfe@dep.state.fl.us if you have any questions or comments related to these studies.

Marine Update: *K. brevis* bloom off SW FL and the FL Keys



Red Tide Update - FWRI/FWC (Jan. 30): A bloom of *Karenia brevis* persists alongshore of SW Florida, with the highest concentrations detected alongshore and offshore of Charlotte County. Very low to medium concentrations were also detected alongshore of Sarasota and Collier counties and background to very low concentrations were detected in Tampa Bay (Pinellas and Manatee counties). Fish kills and respiratory irritation continue to be reported from Sarasota County south through Lee County.
See http://myfwc.com/media/2482760/midweek0130.pdf

NOAA Conditions Report - (Jan. 31): Very low to high concentrations of Karenia brevis (commonly known as Florida Red Tide) are present along- and offshore southwest Florida from southern Pinellas to Collier County, as well as offshore the gulfside of the lower Florida Keys … Over the past few days, reports of respiratory irritation were received from Sarasota and Charlotte counties. Reports of dead fish were received from Charlotte and Lee counties. To read the full NOAA conditions report, visit: http://tidesandcurrents.noaa.gov/hab/bulletins.html.

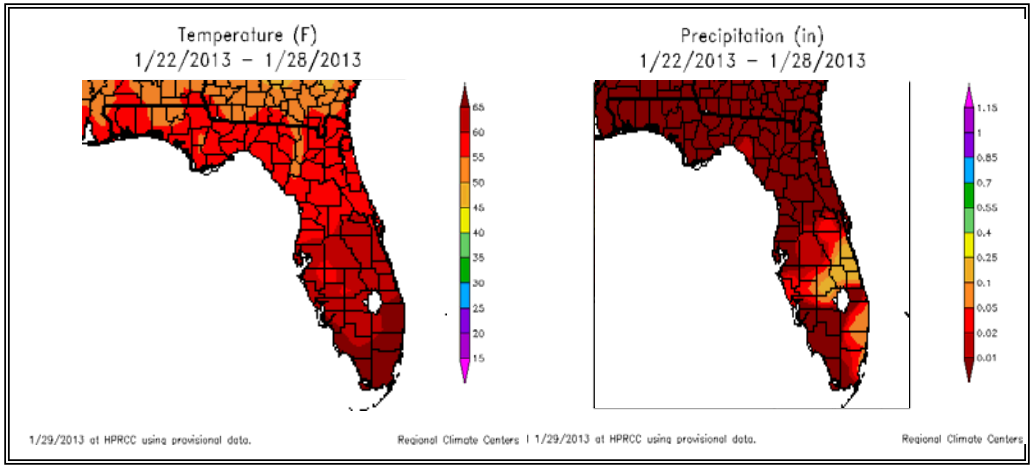
Interpreting Moderate Resolution Imaging Spectroradiometer Data

- 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 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: 1/22/13 to 1/28/13 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.

January 27, 2013
MODIS 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
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