



Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory

08 September, 2015, Bulletin 17

The Microcystis cyanobacteria bloom has moderate to high concentrations in the southwestern part of the Western basin and extends around the islands to the north past Pelee Point. During calm winds (<8 knots), scum occurred over the weekend in areas of high concentration. Large patches of low to moderately low concentrations are found around the western half of the Central Basin. West of West Sister Island, toxicity has continued to decrease, however, toxicity in scum remains a significant risk.

Calm southerly winds becoming northwest overnight favor scum formation in areas of moderate to high concentration. Winds will increase on Wednesday into Thursday, increasing mixing, and reducing the risk of scum and surface concentrations. A slight southern transport is predicted through Friday (Sept 11), low concentrations may approach the Ohio coast in mid-week. The persistent bloom in Sandusky Bay continues. No other blooms are evident in the central and eastern basins.

Some small blooms, separate from the main bloom seen here, have been reported in the Cleveland area. While these have had low levels of toxin, please check for updates on Ohio State Parks at Ohio EPA's site, <http://epa.ohio.gov/habalgae.aspx>. Keep your pets and yourself out of the water in areas where scum is forming.

-Dupuy, Stumpf

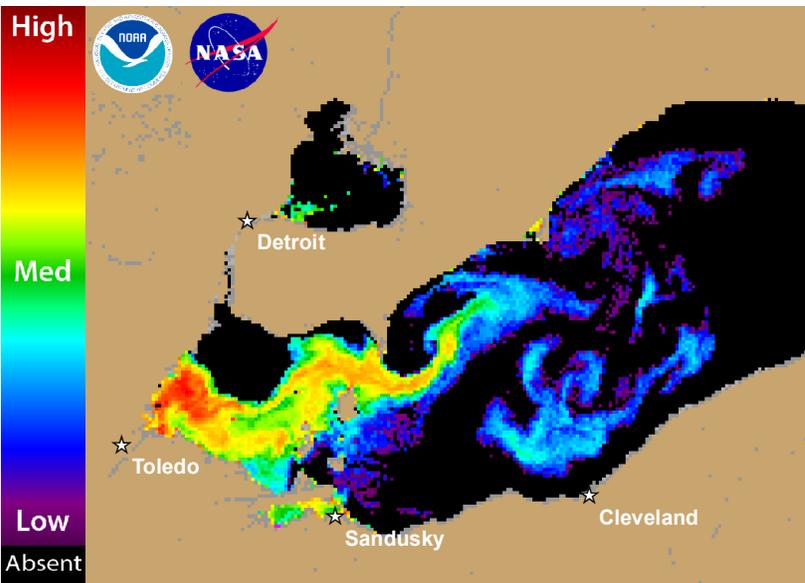


Figure 1. Cyanobacterial Index from NASA's MODIS- Terra data collected 06 September, 2015 at 12:25 EST. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

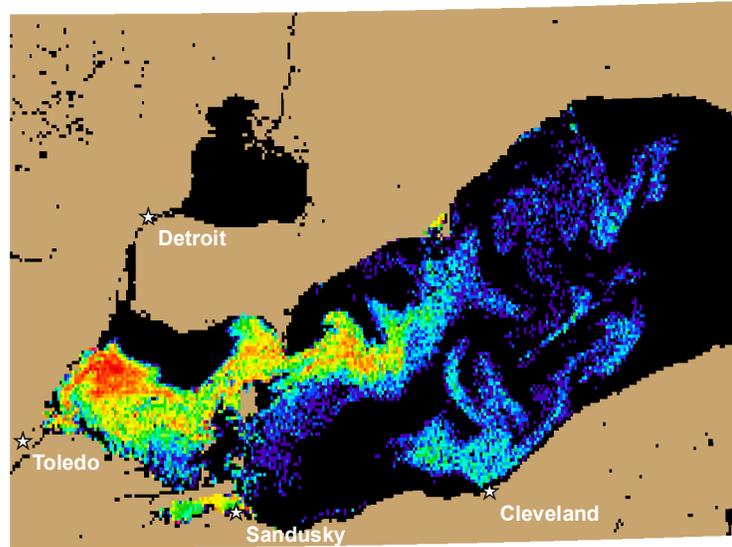


Figure 2. Nowcast position of bloom for 08 September, 2015 using GLCFS modeled currents to move the bloom from the 06 September, 2015 image.

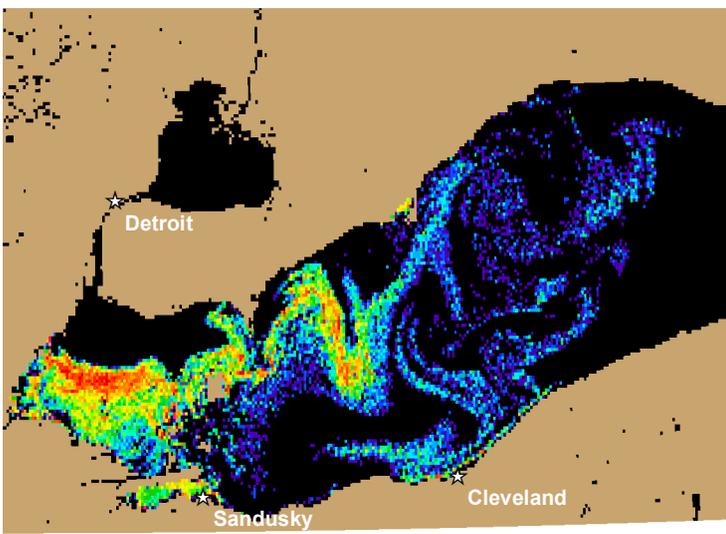
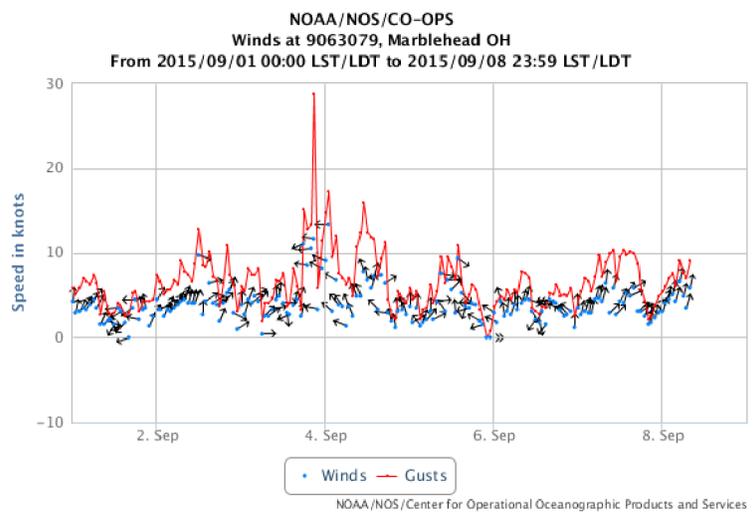
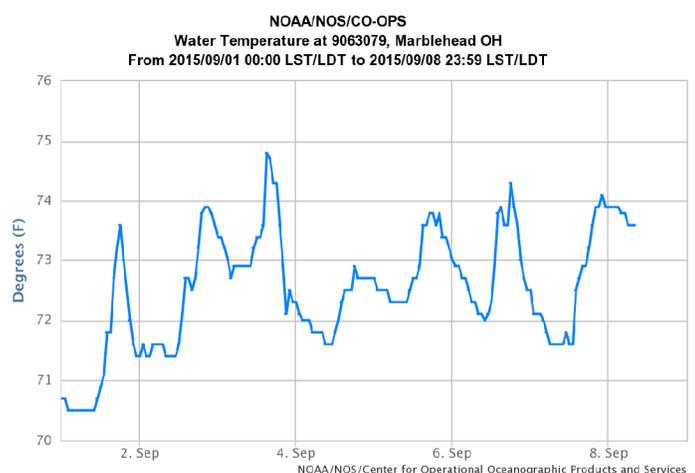


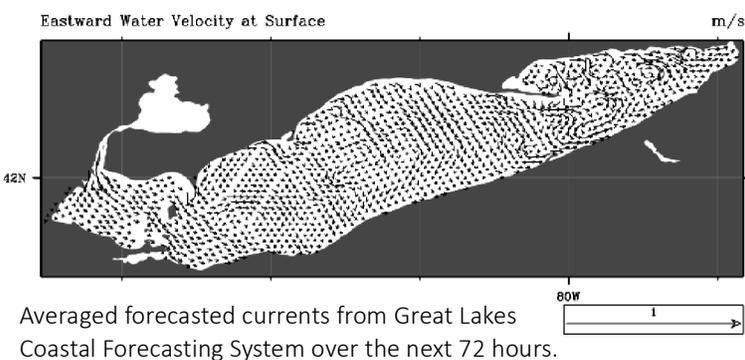
Figure 3. Forecast position of bloom for 11 September, 2015 using GLCFS modeled currents to move the bloom from the 06 September, 2015 image.



Wind Speed, Gusts and Direction from Marblehead, OH. From: NOAA/Center for Operational Oceanographic Products and Services (CO-OPS). Note: 1 knot = 0.51444 m/s. Blooms mix through the water column at wind speeds greater than 7.7 m/sec (~ 15 knots).



Water Temperature from Marblehead, OH. From: NOAA/Center for Operational Oceanographic Products and Services (CO-OPS).



Averaged forecasted currents from Great Lakes Coastal Forecasting System over the next 72 hours.

Supported by the NASA Applied Sciences Health and Air Quality Program. Wind forecasts derived from NOAA/National Weather Service in Cleveland.

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