



Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory
 29 August 2014, Bulletin 18

The most severe area of the bloom remains in the western basin, with the eastern edge extending south past the Bass Islands and Pelee Island. High winds (> 10 knots) kept the bloom mixed in the water column yesterday, reducing the surface concentration seen by satellite. GLERL reported microcystin Monday from 3 ug/L just outside of Maumee Bay to 4 ug/L inside the Bay.

Over the Labor Day weekend, winds are expected to be strong enough to partially or mostly mix the bloom, keeping surface concentrations on the eastern end of the bloom moderate to low. Scum should continue to be rare except in areas sheltered from the wind. Southerly winds through the long weekend will tend to keep the bloom from collecting on the Ohio coast. The bloom may reach the Canadian coast, around Point Pelee, by the end of the weekend. We forecast a northeast transport by the Labor Day.

The imagery shows the persistent bloom in Sandusky Bay is present. There are no reported harmful algal blooms or suspicious features in the Eastern Basin at this time.

Most of the coast of western Lake Erie is not impacted by the bloom, enjoy the lake this weekend!

-Dupuy, Stumpf

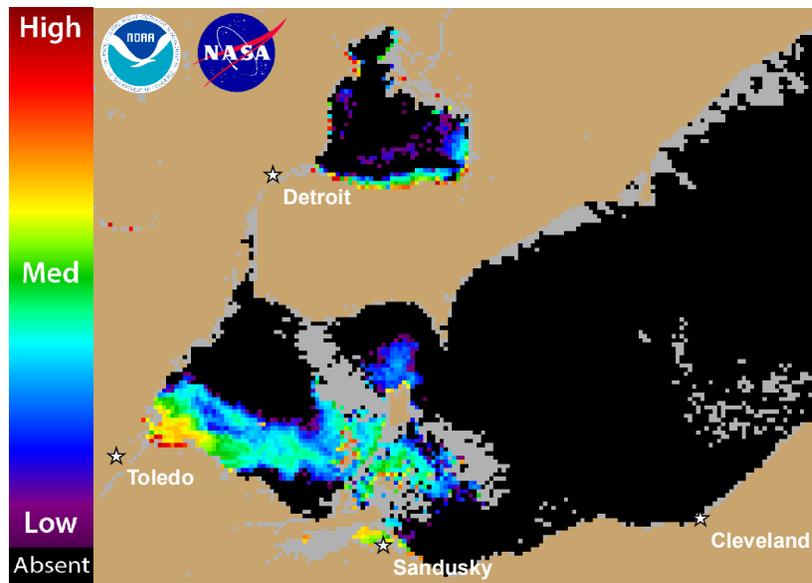


Figure 1. Cyanobacterial Index from NASA's MODIS-Aqua data collected 28 August 2014 at 1:10 pm. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 35,000 cells/mL.

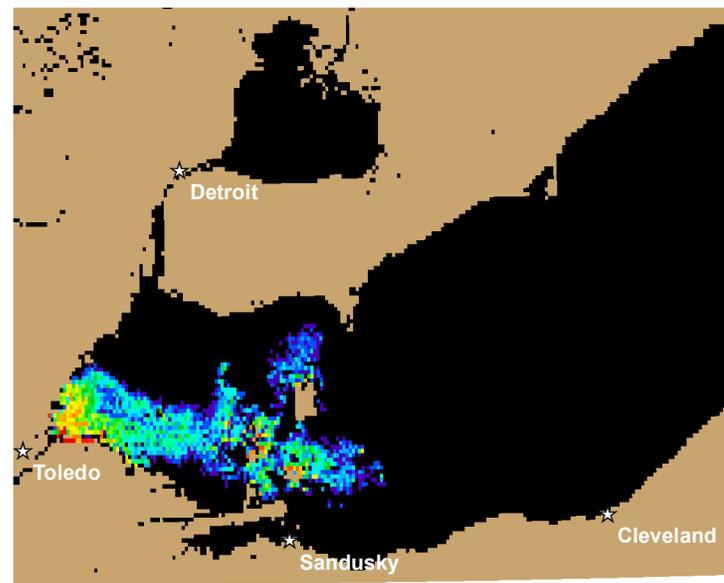


Figure 2. Nowcast position of bloom for 29 August 2014 using GLCFS modeled currents to move the bloom from the 28 August 2014 image.

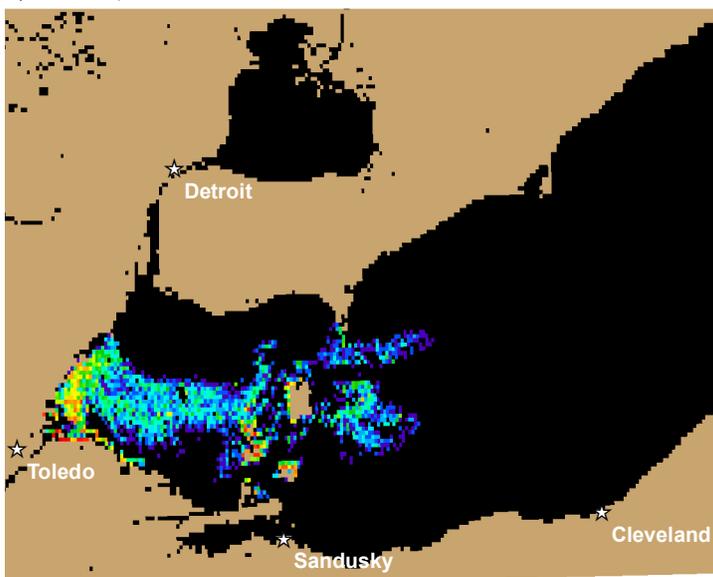
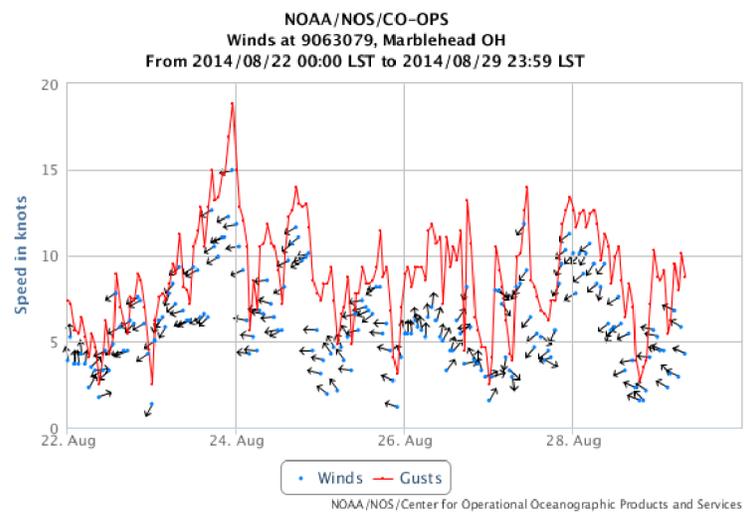
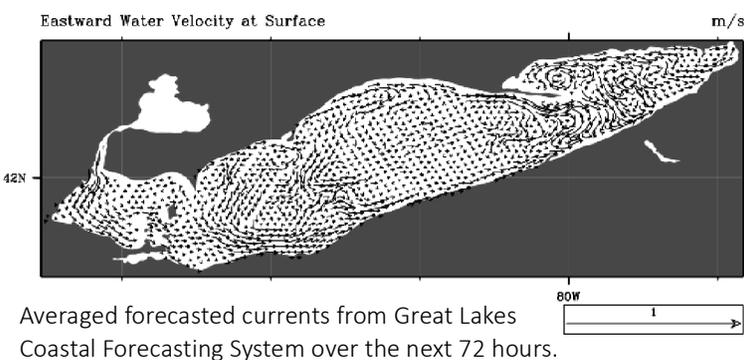


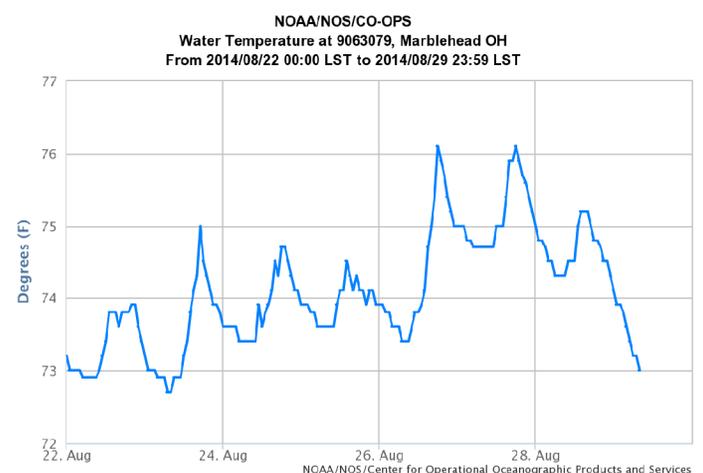
Figure 3. Forecast position of bloom for 1 September 2014 using GLCFS modeled currents to move the bloom from the 28 August 2014 image.



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).



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



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

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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