Experimental Lake Erie Harmful Algal Bloom Bulletin

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

4 September 2014, Bulletin 20

The bloom has moved east past the Pelee and the Bass Islands, with the eastern edge extending past Point Pelee. The most intense area of the bloom remains in Maumee Bay. Scum was seen in this area yesterday when winds calmed to less than 10 knots. The bloom has moved away from the Ohio coast from east of Toledo to Port Clinton.

Winds will increase today and tonight. Through Friday, southwesterly winds will keep the bloom mixed around the islands. Northerly winds on Saturday will mix the bloom over the entire area. Calm weather is expected Sunday and into Monday, increasing potential for scum in the medium to high concentration areas. The bloom will continue an eastward transport over the next few days.

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.

-Dupuy, Stumpf

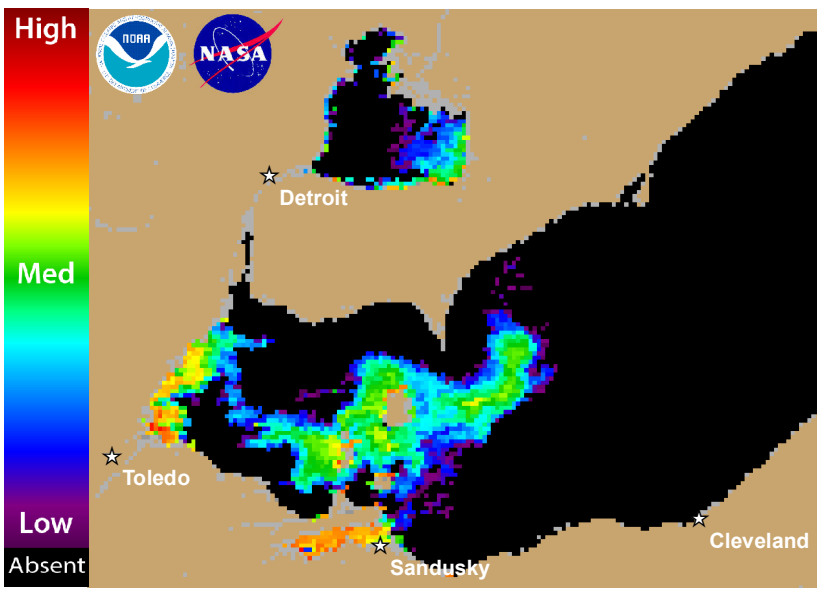


Figure 1. Cyanobacterial Index from NASA's MODIS-Aqua/Terra data collected 3 September 2014. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 35,000 cells/mL.

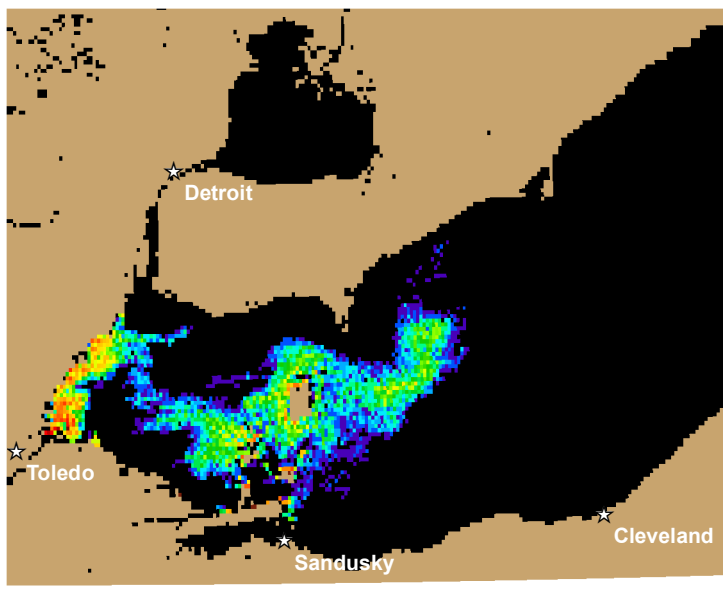


Figure 2. Nowcast position of bloom for 4 September 2014 using GLCFS modeled currents to move the bloom from the 3 September 2014 image.

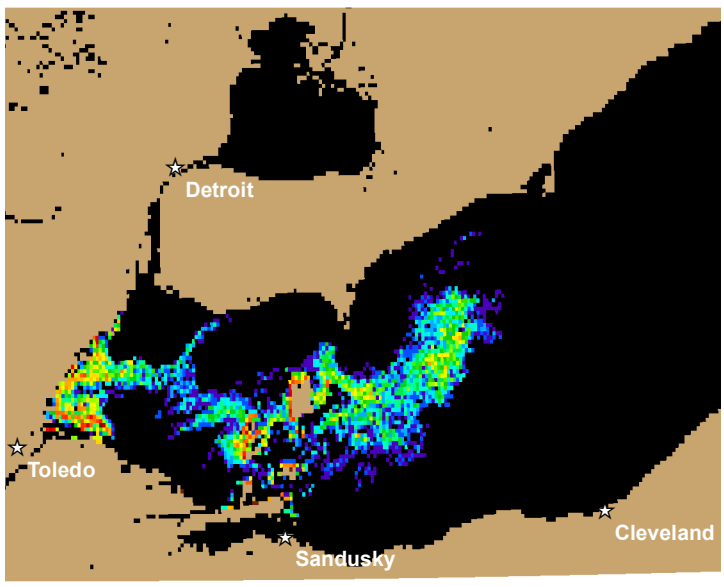
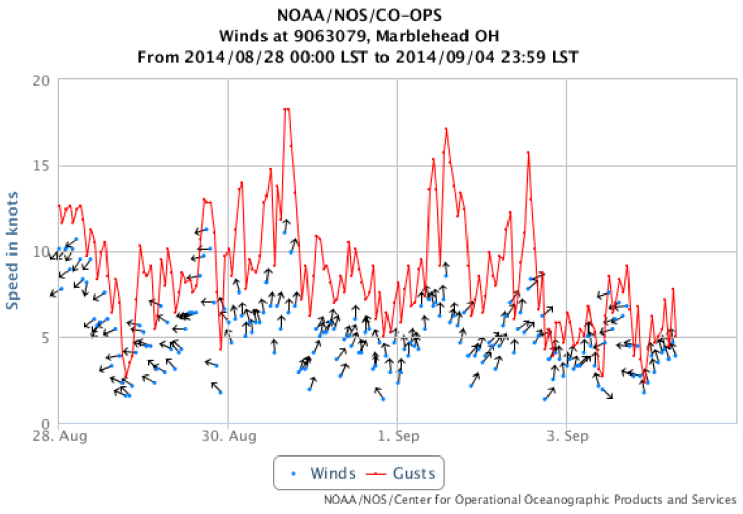
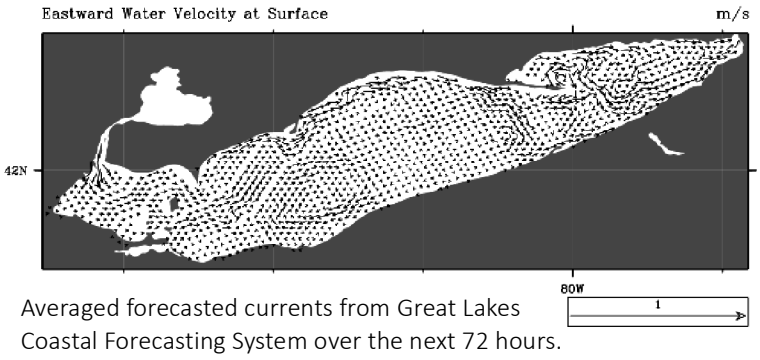


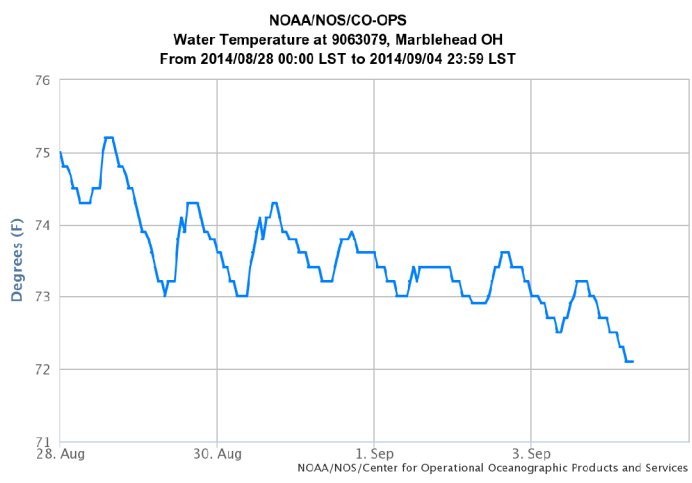
Figure 3. Forecast position of bloom for 7 September 2014 using GLCFS modeled currents to move the bloom from the 3 September 2014 image.



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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