



Experimental Lake Erie Harmful Algal Bloom Bulletin

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

28 September, 2015, Bulletin 23

Relatively strong winds have reduced the scale of the *Microcystis* cyanobacteria bloom in western Lake Erie. In the southwestern part of the Western basin, the concentration is low, and it is not detectable during strong winds. The highest concentrations run through the islands to Point Pelee, although these are moderate during these windier conditions. Further east, the bloom remains below detection. Toxicity is low in the southwestern basin. There is enough toxin that scum areas, if they occur, continue to pose a significant risk.

Mild southerly winds are likely today and tomorrow. Clear weather and strong northeasterly winds (up to 20 knots) will occur from Wed to Friday and will continue to disrupt the bloom. They will also push the bloom west out of the central basin. We expect a decrease in size of the bloom.

The persistent bloom in Sandusky Bay continues. No other blooms are evident in the central and eastern basins.

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

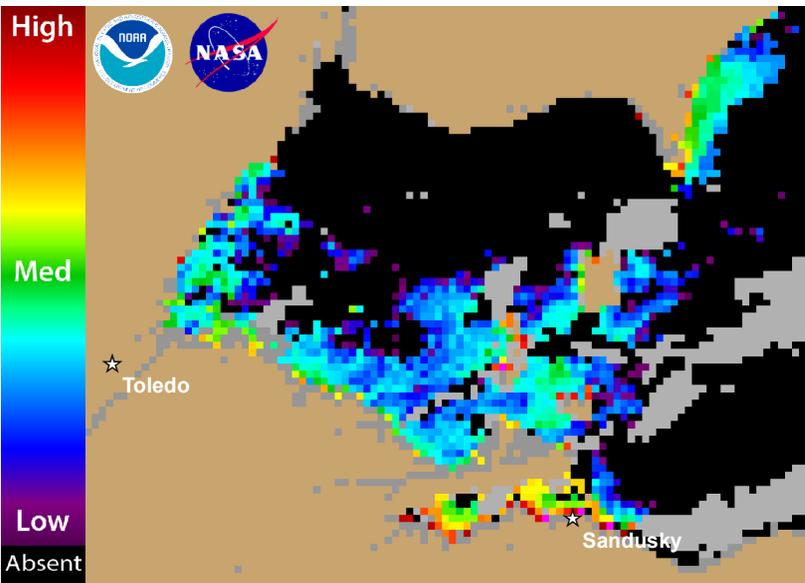


Figure 1. Cyanobacterial Index from NASA's MODIS- Aqua_terra data collected 25 September, 2015 at 11:20 EST. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

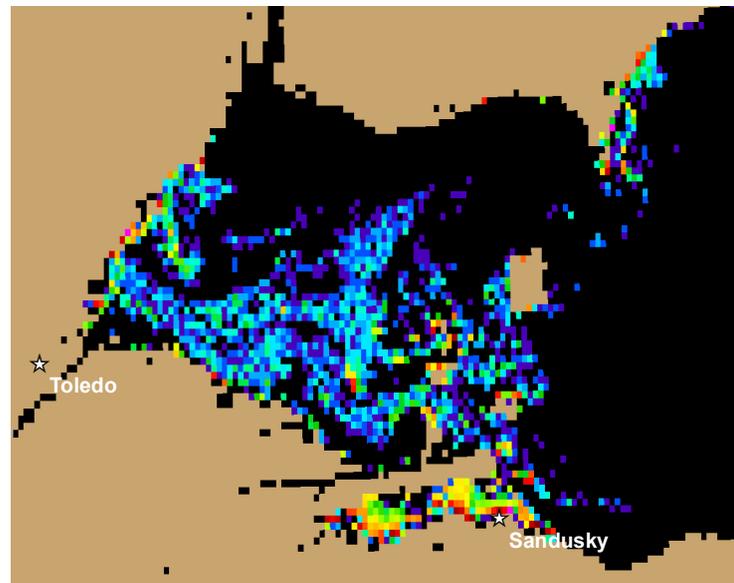


Figure 2. Nowcast position of bloom for 28 September, 2015 using GLCFS modeled currents to move the bloom from the 25 September, 2015 image.

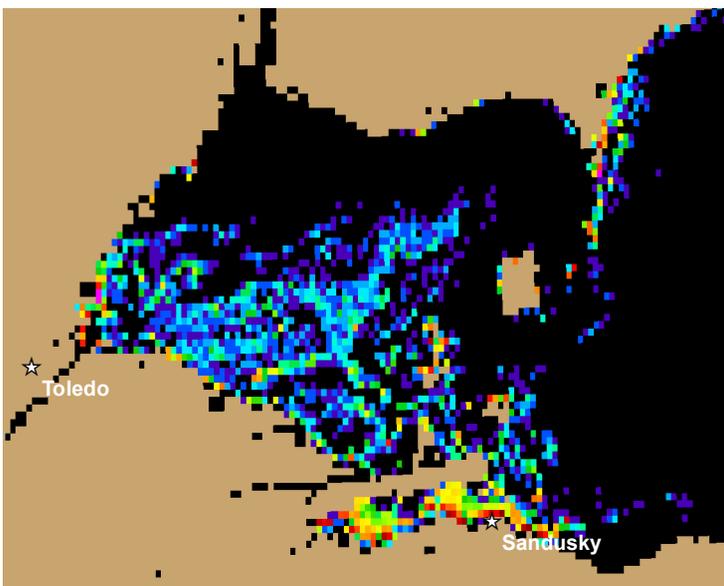
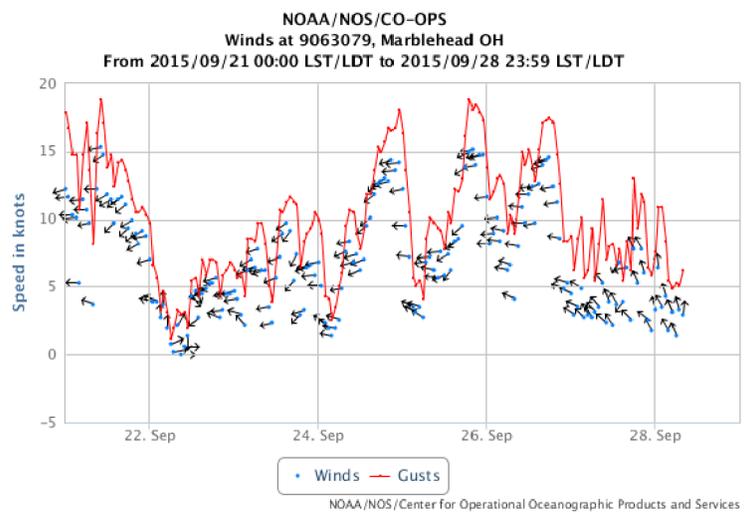
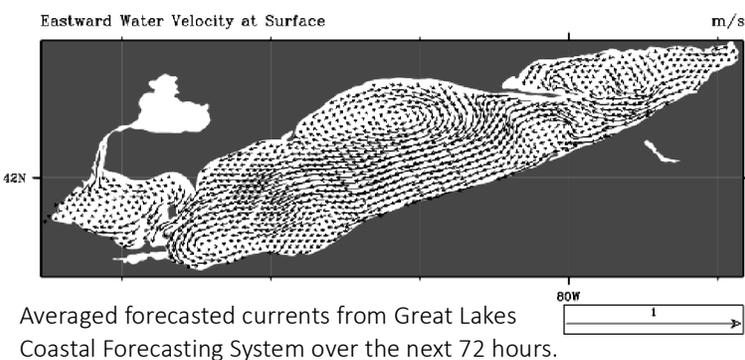


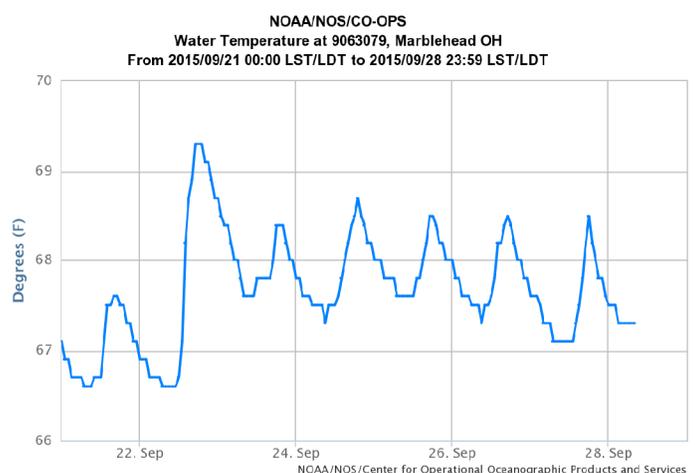
Figure 3. Forecast position of bloom for 01 October, 2015 using GLCFS modeled currents to move the bloom from the 25 September, 2015 image.



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).



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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