Experimental Lake Erie Harmful Algal Bloom Bulletin

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

29 July, 2015, Bulletin 05

The Microcystis cyanobacteria bloom continues in the western basin. Bloom concentrations have developed near the Michigan coast over the last few days. The bloom extends from there to West Sister Island and extends east through the islands. High concentrations also occur near the Ohio coast in the area directly onshore of West Sister Island. Low to moderate concentrations are found east of Pelee Point in Canada. During calm weather, scums can develop in areas of high concentrations (red in the imagery). Microcystin has been detected; toxin levels are high in scums, where the bloom is concentrated. Winds 10-15 knots from the west on Thursday and Friday (July 30-31) may partially mix the bloom into the water column, reducing surface concentrations. Slight northeast transport is expected through Saturday (Aug 1).

The persistent bloom in Sandusky Bay is present. No blooms are evident in the central basin and eastern basins.

Please check Ohio EPA's site on harmful algal blooms for safety information. http://epa.ohio.gov/habalgae.aspx
Keep your pets and yourself out of the water in areas of scums.

- Stumpf, Dupuy

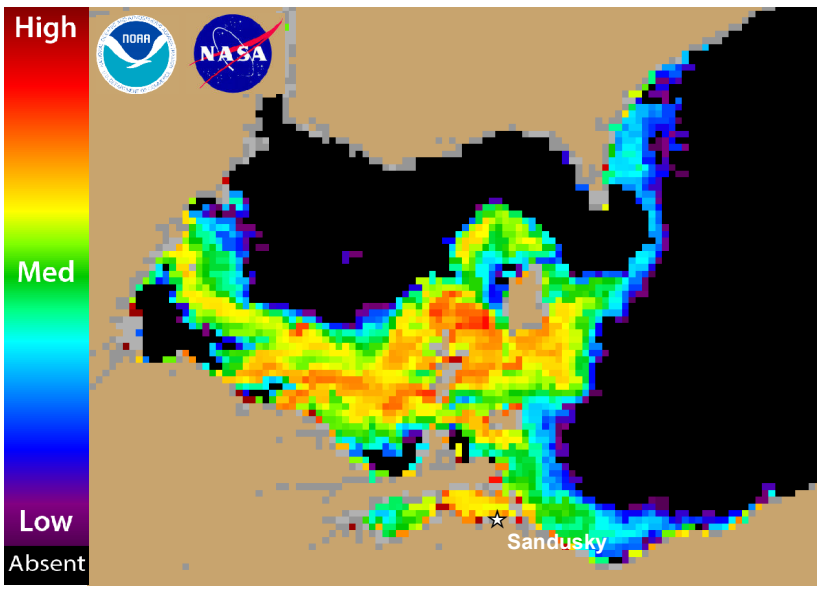


Figure 1. Cyanobacterial Index from NASA's MODIS- Aqua data collected 28 July, 2015 at 13:15. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

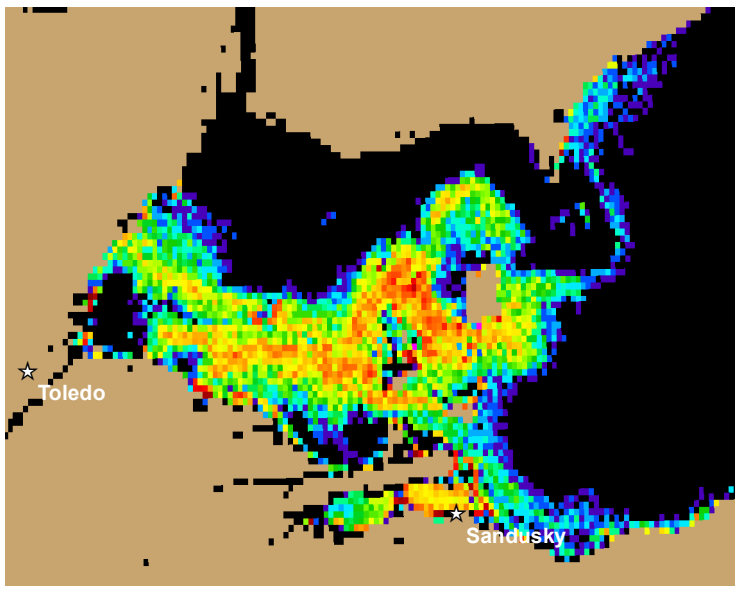


Figure 2. Nowcast position of bloom for 29 July, 2015 using GLCFS modeled currents to move the bloom from the 28 July, 2015 image.

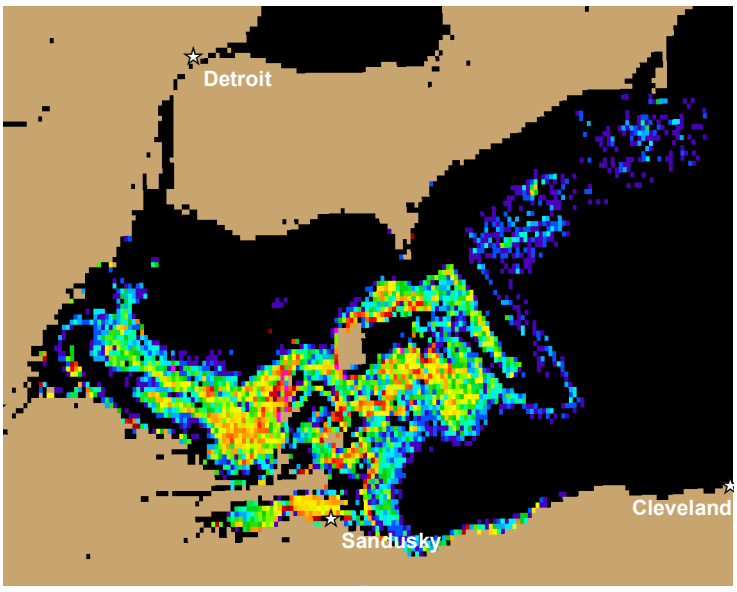
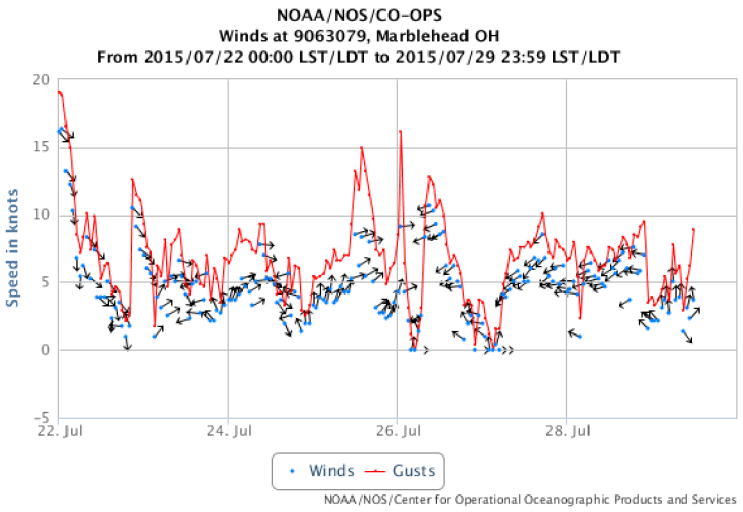
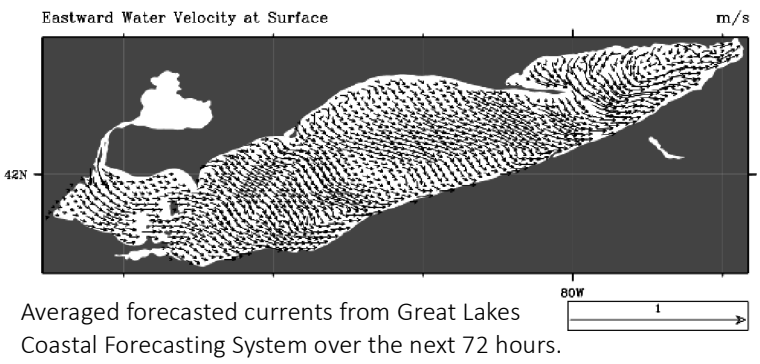


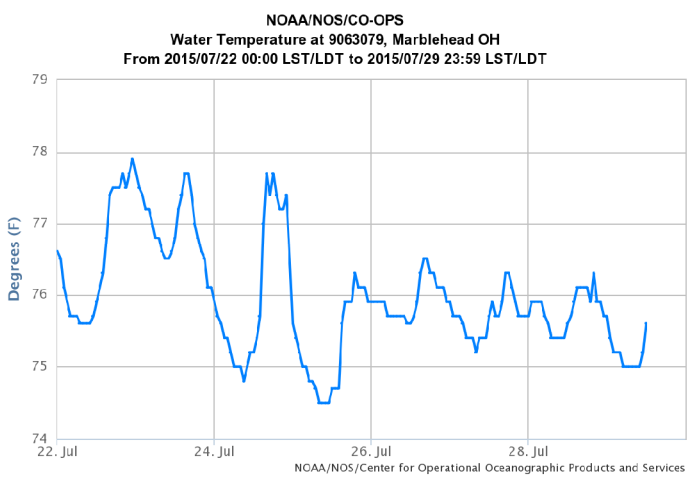
Figure 3. Forecast position of bloom for 01 August, 2015 using GLCFS modeled currents to move the bloom from the 28 July, 2015 image.



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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