



Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory
31 July, 2015, Bulletin 06

The *Microcystis* cyanobacteria bloom continues in the western basin. The bloom extends from near Michigan across the western basin south of West Sister Island, then east through the islands. Mixing has reduced the surface concentration in the last day. Along the Canada coast east of Pelee Point, mixing has lowered the surface concentration to the point of non-detection. In that area, the bloom may reappear when calm weather returns. Microcystin is present, with toxin levels especially high in scums or areas of obvious bloom.

Over the weekend, >15 knots winds are expected, favoring continued mixing and lower surface concentrations of the bloom. Scum formation should be rare over the weekend while these winds persist.

Westerly winds over the next few days will favor eastward transport of the bloom away from the Michigan and Ohio coasts. The persistent bloom in Sandusky Bay is present. No other 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 where scum is forming.

- Stumpf, Dupuy

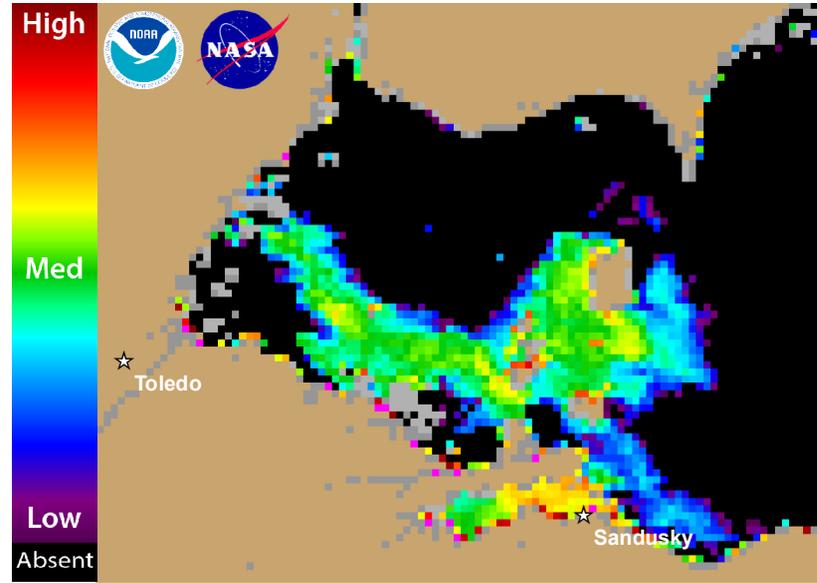


Figure 1. Cyanobacterial Index from NASA's MODIS-Aqua data collected 30 July, 2015 at 13:05 EST. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

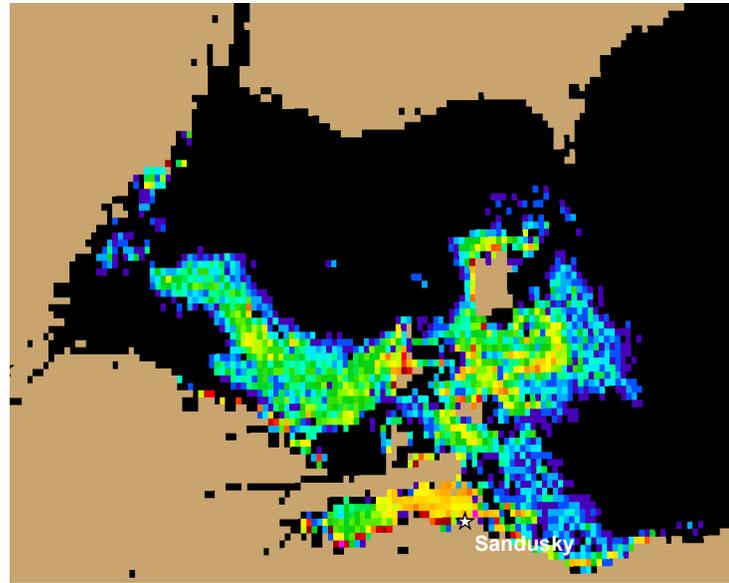


Figure 2. Nowcast position of bloom for 31 July, 2015 using GLCFS modeled currents to move the bloom from the 30 July, 2015 image.

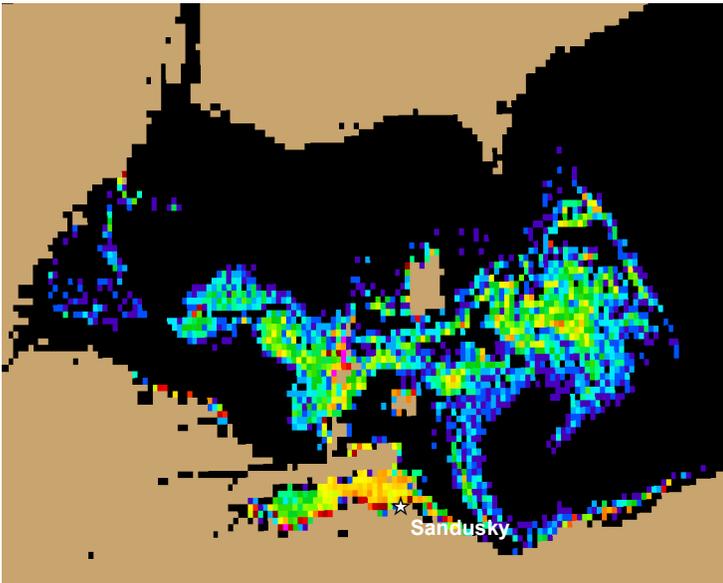
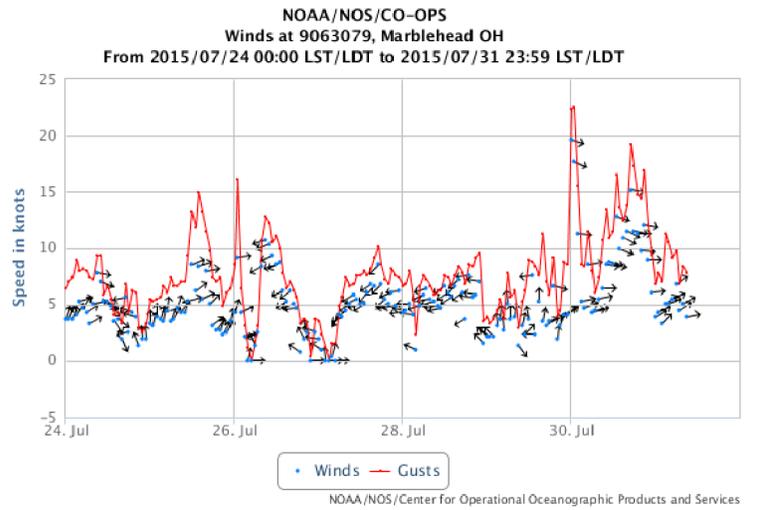
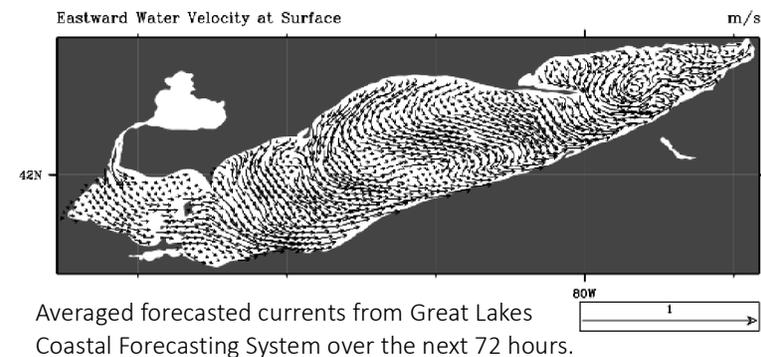


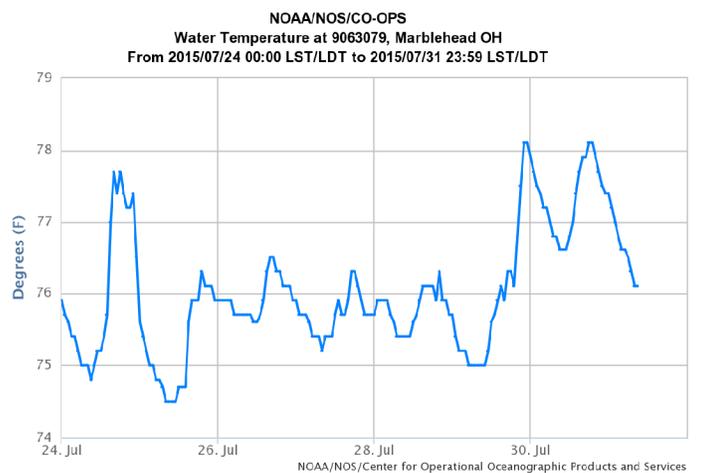
Figure 3. Forecast position of bloom for 03 August, 2015 using GLCFS modeled currents to move the bloom from the 30 July, 2015 image.



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).



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



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

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