



# Experimental Lake Erie Harmful Algal Bloom Bulletin

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

11 September, 2015, Bulletin 18

The *Microcystis* cyanobacteria bloom continues in the southwestern part of the Western basin, extending around the islands to the north past Pelee Point. Relatively strong winds yesterday caused mixing that reduced surface concentrations from earlier. The patches of bloom in the Central Basin were mixed to substantially reduce the bloom concentration below detection in many areas, although very low concentration can be seen just north of Cleveland. Toxicity is relatively low, except in scums, where a significant risk continues to exist.

Strong northerly winds are expected over the weekend. Mixing should be strong. The moderate concentrations seen in Thursday's image (lower than seen earlier in the week) should continue through the weekend. Southerly transport is expected. Winds will shift to southerly on Monday, and may decrease. The persistent bloom in Sandusky Bay continues. No other blooms are evident in the central and eastern basins. Because of expected cloudy weather through Sunday, we may delay the next bulletin until Tuesday.

Some small blooms, separate from the main bloom seen here, have been reported in the Cleveland area. While these have had low levels of toxin, 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

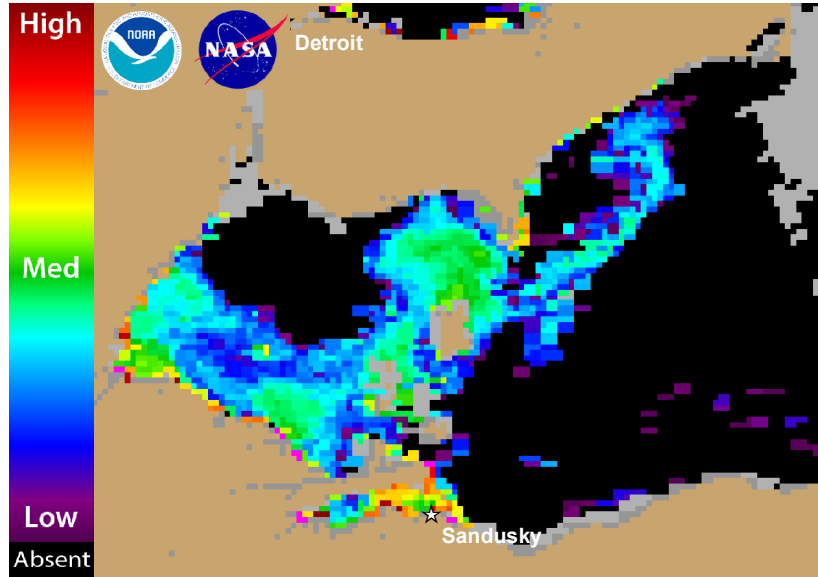


Figure 1. Cyanobacterial Index from NASA's MODIS- Terra& Aqua data collected 10 September, 2015 at 12:00 EST. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

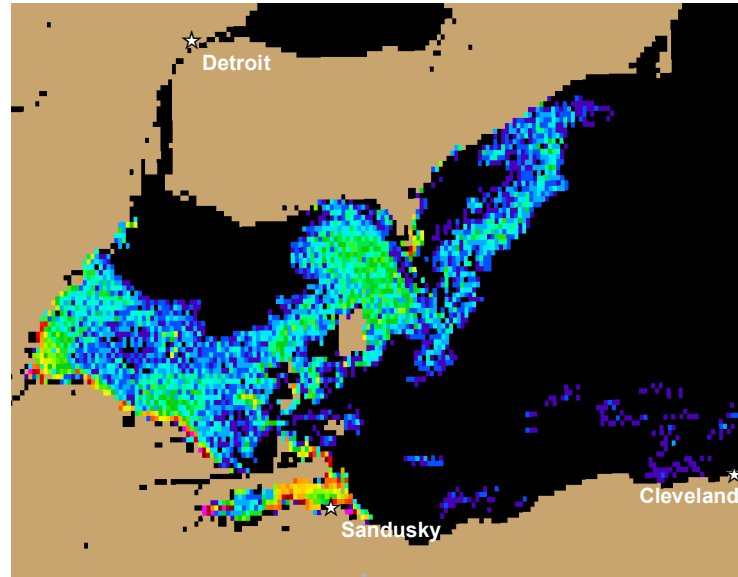


Figure 2. Nowcast position of bloom for 11 September, 2015 using GLCFS modeled currents to move the bloom from the 10 September, 2015 image.

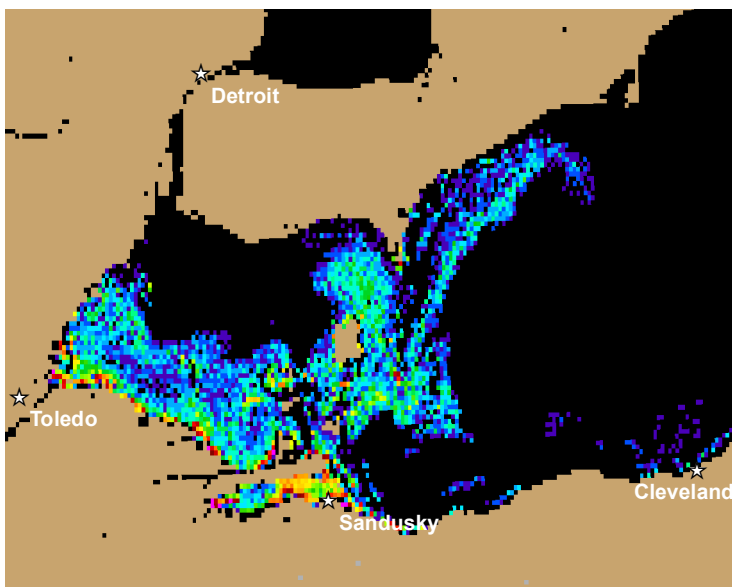
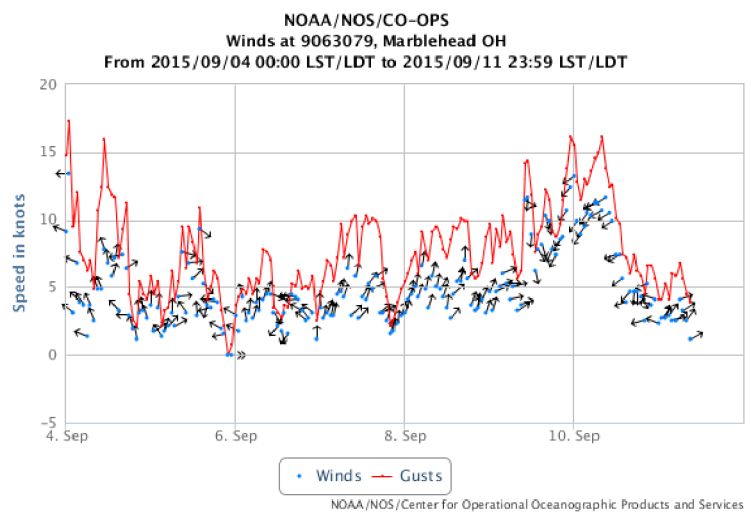
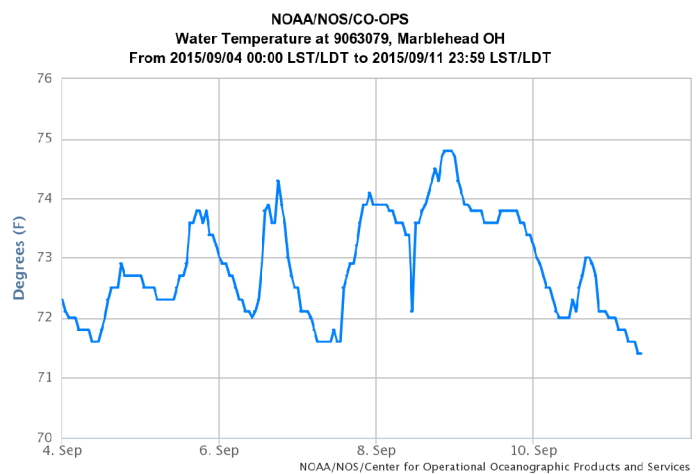
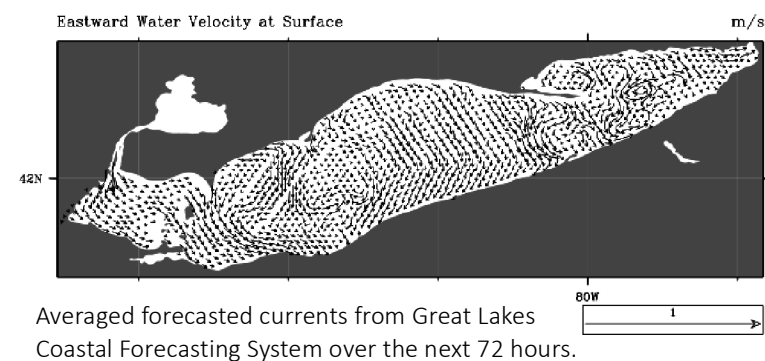


Figure 3. Forecast position of bloom for 14 September, 2015 using GLCFS modeled currents to move the bloom from the 10 September, 2015 image.



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).



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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