

Lake Erie Harmful Algal Bloom Seasonal Forecast

12 July 2018



NOAA and our research partners predict that western Lake Erie will experience a harmful algal bloom (HAB) of cyanobacteria this summer that is smaller than in 2017 but larger than the mild bloom in 2016.

We expect this year's bloom to measure 6 on the severity index, but could range between 5 and 7.5. The severity index is based on a bloom's biomass – the amount of its harmful algae – over a sustained period. The largest blooms, 2011 and 2015, were 10 and 10.5, respectively. Last year's bloom had a severity of 8. The size of a bloom is not necessarily an indication of how toxic it is. The toxins in a large bloom may not be as concentrated as in a smaller bloom. Algal scums, however, do pose a toxin risk, and people and pets should not swim in areas with scum.



The bloom varies in size and location through the summer and early fall. Winds are a key factor in determining where the bloom will go. Many areas of the lake will be safe to enjoy through the summer. The twice-weekly bulletins will give current information on the bloom.

Nutrient load data for the forecast came from Heidelberg University. The forecast models are run by NOAA's National Centers for Coastal Ocean Science, the University of Michigan, North Carolina State University, LimnoTech, Stanford University, and the Carnegie Institution for Science, with additional input from NOAA's Ohio River Forecast Center,

For additional information for safe recreation, check Ohio EPA's site on harmful algal blooms: epa.ohio.gov/HAB-Algae

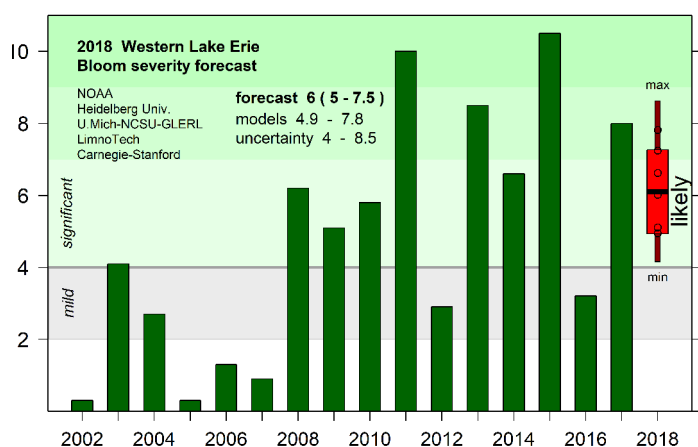


Figure 1. Bloom forecast compared to previous years. The wide bar is the range of likely severity (5-7.5). The narrow bar captures the maximum uncertainty in all the models.

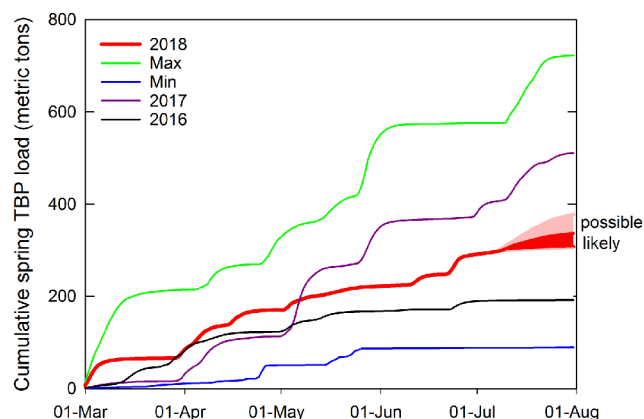


Figure 2. Cumulative total bioavailable phosphorus (TBP) loads for the Maumee River (based on Waterville). Each line denotes a different year. 2018 is in red through July 18, the solid line is the measured load. Loads over the remainder of July will have a negligible impact on the bloom size.

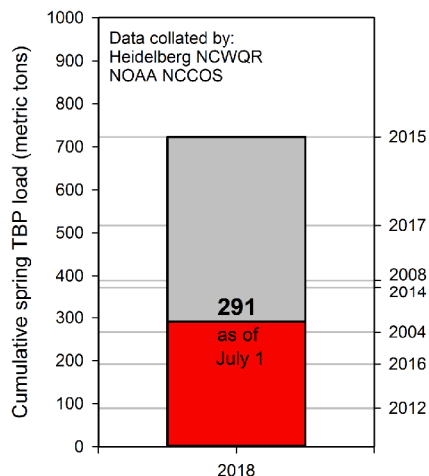


Figure 3. Total bioavailable phosphorus (TBP) load accumulated from the Maumee River near Waterville to date. The right axis denotes the TBP load from selected previous years. Data at: <http://data.glos.us/maumee/>

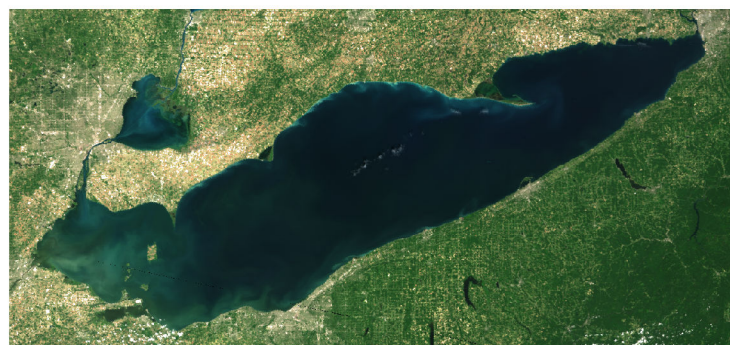


Figure 4. True color image on 09 July 2018 taken by the OLCI on the Copernicus Sentinel-3a satellite. West of the Islands shows the last of the sediment brought into the lake by spring rains (and stirred up by winds). Coloration in Maumee Bay up along the Michigan coast is a combination of the spring harmless diatom bloom, and some cyanobacteria