

Western Lake Erie HAB Seasonal Projection Update

Bulletin 08- 2024-07-25

Summary: This Bulletin provides an updated estimate of potential *Microcystis* harmful algal bloom (HAB) severity. The projected severity depends on input of total bioavailable phosphorus (TBP) from the Maumee River during the loading season (Mar. 1-Jul. 31), and uses measurements of Maumee River discharge from the USGS and TBP loads measured by the Heidelberg U. National Center for Water Quality Research.

With Maumee River TBP load observations through July 21 we continue to predict a potential bloom severity of ~5 with a range of 4.5-6. Rainfall and associated runoff in July was within the forecast uncertainty and resulted in an additional ~15 metric tons of TBP. With this modest increase, we continue to expect a moderate to larger-than-moderate summer bloom.

The bloom was established by June 24th, which is the earliest bloom start we've identified since our monitoring began in 2002. While there have been local bloom impacts along the Michigan coast, the bloom has been slower to expand than last year, likely because of weather conditions (i.e., high wind and clouds). The bloom will reach a peak in August, continuing into September, with variation in size and location due to wind. While toxicity varies throughout the bloom, toxins concentrate in surface scums during calm weather. People and pets should not swim in areas with scum. Information on the location and intensity of the bloom can be found at [NOAA's Lake Erie Harmful Algal Bloom Forecast webpage](#). For additional information on safe recreation, please visit [Ohio EPA's webpage on HABs](#).

Predicted Bloom Severity

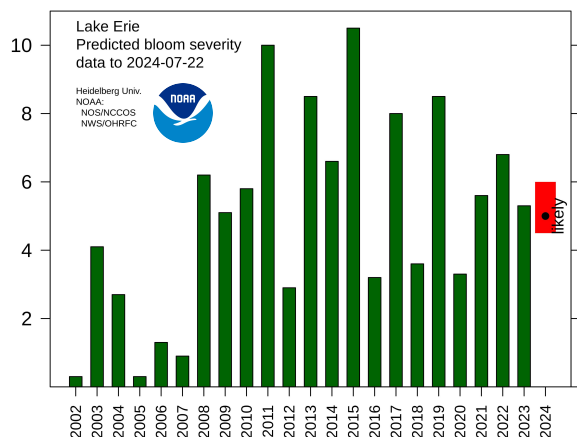


Fig. 1. Predicted bloom severity as compared to previous years. The wide red bar is the likely range of severity based on the limits of the forecast uncertainty (4.5-6) with a median of 5.

Total Bioavailable Phosphorus

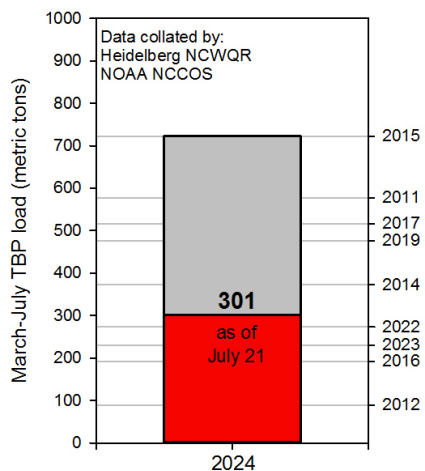


Fig. 3. Total bioavailable phosphorus (TBP) load accumulated from the Maumee River near Waterville, OH to date. The right axis denotes the TBP load from selected previous years.

For more information visit: coastalscience.noaa.gov/science-areas/habs/hab-forecasts/lake-erie/ or ncwqr.org/

Cumulative Total Bioavailable Phosphorus

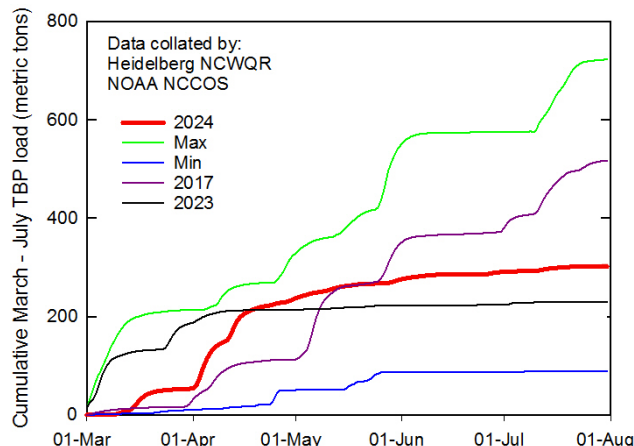


Fig. 2. Cumulative TBP loads for the Maumee River (Waterville, OH). Each line denotes a different year or the min/max cumulative load since 2002. The solid red line is the measured load to July 21, 2024.

Satellite Image

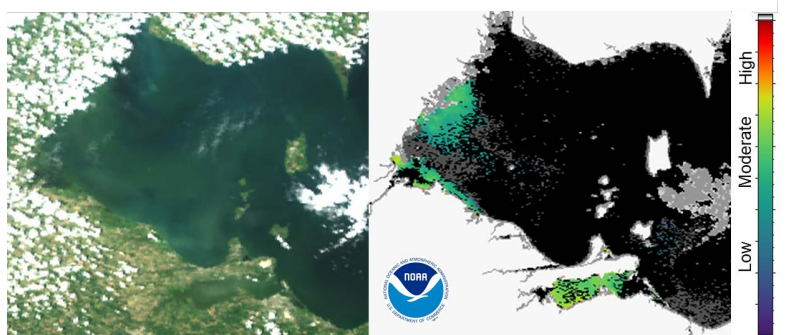


Fig. 4. True color image (left) and cyanobacteria index (CI) for western Lake Erie on 20 July 2024 derived from the Copernicus Sentinel-3a satellite. The *Microcystis* bloom extends from Maumee Bay north to Pointe Mouillee State Game Area, MI and to the south to Magee Marsh Wildlife Area, OH and into the western basin to West Sister Island. Sandusky Bay has a local bloom of mixed cyanobacteria.

Questions? Contact: hab@noaa.gov

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