

Western Lake Erie HAB Seasonal Projection

Projection 09 - 2023-07-27

Summary:

The Western Lake Erie HAB Seasonal Projection provides an updated estimate of potential cyanobacterial harmful algal bloom (HAB) severity. The projected severity depends on input of total bioavailable phosphorus (TBP) from the Maume River during the loading season (March 1- July 31), with phosphorus loads measured by the Heidelberg University National Center for Water Quality Research.

The cyanobacterial bloom was established by July 4th, which is the second earliest bloom start (following 2018) since 2002. Based on satellite imagery through July 25th, the bloom will have a minimum severity of 4.5. Following these observations, we now forecast a bloom severity between 4.5-5.5, compared to a maximum forecasted severity of 4.5 issued on June 29th. The bloom will change throughout the summer and move with the wind and currents. We will provide information on the presence and location of the bloom throughout the summer at our [website](#).

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Predicted Bloom Severity

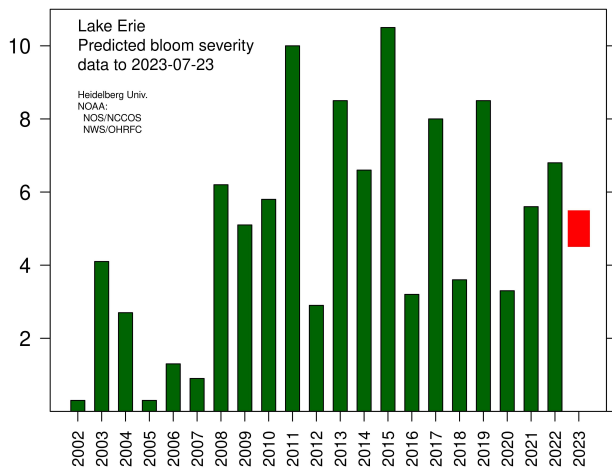


Fig. 1. Predicted bloom severity as compared to previous years. The wide red bar is the likely range of severity based on the limits of the model uncertainty.

Cumulative Total Bioavailable Phosphorus

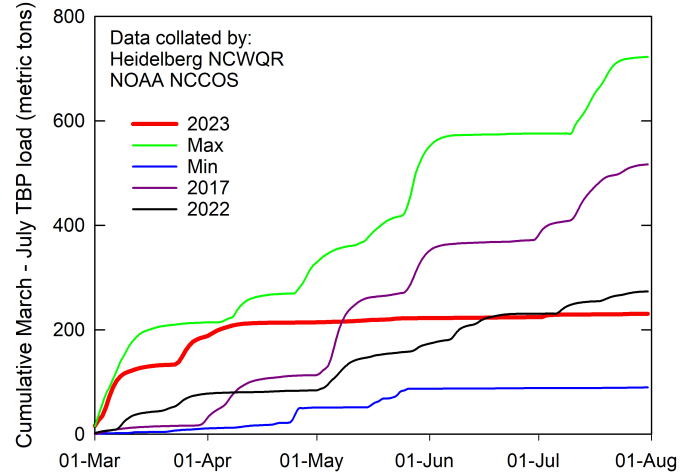


Fig. 2. Cumulative TBP loads for the Maume River (Waterville, OH). Each line denotes a different year or the min/max cumulative load since 2002. 2023 is in red: the solid line is the measured load to July 23rd.

Total Bioavailable Phosphorus

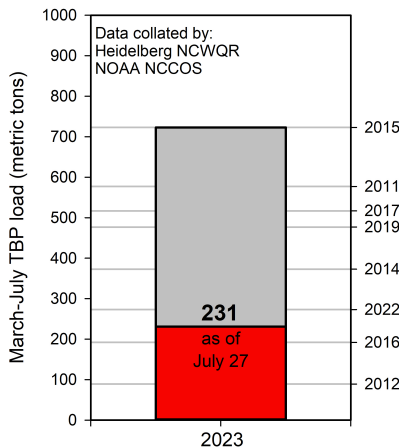


Fig. 3. Total bioavailable phosphorus (TBP) load accumulated from the Maume River near Waterville, OH to date. The right axis denotes the TBP load from selected previous years. There has been an additional 13 metric tons of TBP load since the forecast issued on June 29th.

Satellite Image - True Color



Fig. 4. True color image for 22 July 2023 derived from the Copernicus Sentinel-3a/b satellite. Green colored water in the western basin is due to the annual cyanobacteria bloom which was established on July 4th. Sediment is light blue. Discolored, green colored water in Sandusky Bay shows the mixed cyanobacterial bloom that has occurred annually since 2019.

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

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