

Western Lake Erie HAB Seasonal Forecast

2025-06-26

Summary: NOAA NCCOS and partners forecast the cyanobacterial harmful algal bloom (HAB) in western Lake Erie this summer to have a severity of 3, with a potential range of 2 to 4, which is less severe than 2024. This severity forecast is on the boundary between a mild and moderate bloom. Moderate blooms tend to cover a somewhat larger area and are more likely to have patches of noticeable scum. The bloom severity depends on the load of total bioavailable phosphorus (TBP) from the Maume River from March to July. Normal rainfall and river flow are expected through July, which is accounted for in the forecast. Uncertainty in the forecast is due to factors other than the phosphorus load which may influence the bloom. This could include availability of residual phosphorus in the lake and competition from other algal species.

The severity is based on the quantity (biomass) of the bloom over a sustained 30 day period. The phosphorous loads are determined by the Heidelberg University National Center for Water Quality Research. Projected July river discharge for the Maume River uses forecasts from the National Weather Service - Ohio River Forecast Center. Models used in the forecast are provided by NOAA's NCCOS, the University of Michigan, North Carolina State University, Stanford University, and Carnegie Science. The forecast will be updated in late July as we have new information on the bloom size and severity.

The bloom varies in size and location due to wind. We expect a bloom start in July, and a bloom peak in August that likely continues into September. At this severity we expect the bloom to remain mostly in the western basin. While toxicity varies throughout the duration of the bloom, toxins will concentrate in any surface scums that form 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

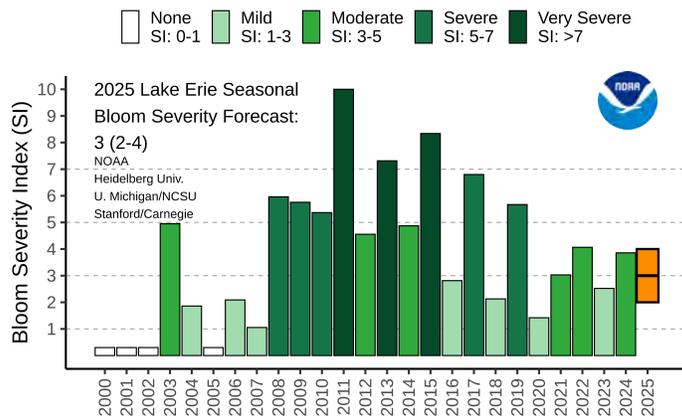


Fig. 1. Predicted bloom severity as compared to previous years. The wide orange bar is the likely range of severity based on the limits of the forecast uncertainty (2-4; Mild to Moderate bloom). The forecast range captures uncertainty in both the bloom severity models as well as the forecast river flow and TBP loads through the end of July.

Total Bioavailable Phosphorus

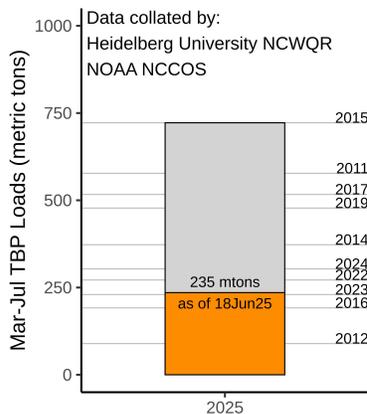


Fig. 3. Total bioavailable phosphorus (TBP) load accumulated from the Maume River near Waterville, OH to date. The right axis denotes the TBP load from selected previous years.

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

Cumulative Total Bioavailable Phosphorus

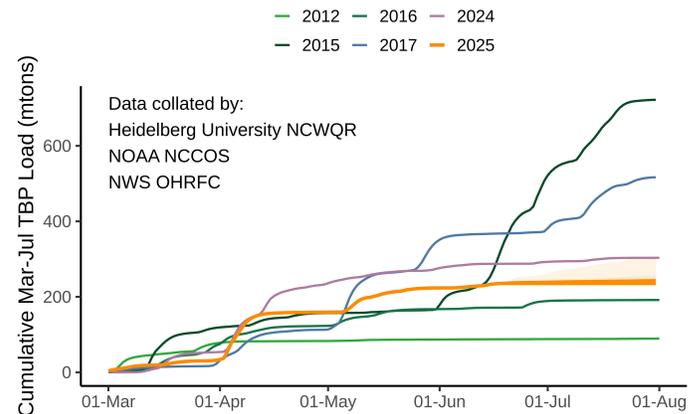


Fig. 2. Cumulative TBP loads for the Maume River (Waterville, OH). Each line denotes cumulative load for different years. 2025 is in orange; the solid line is the measured load to June 18 and predicted load for the rest of the loading season (thru July); the orange shading shows the possible range in TBP loads for the remainder of the season in the event of excessive rainfall.

Satellite Image



Fig. 4. True color image for June 22, 2025 derived from the Copernicus Sentinel-3b satellite. Sediments resuspended by recent winds produce some of the brighter water in the lake.

Questions? Contact: hab@noaa.gov

1305 East West Hwy, Rm 8110
Silver Spring, Maryland 20910
coastalscience.noaa.gov