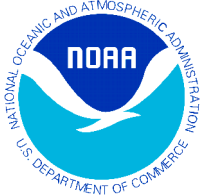


Lake Erie Harmful Algal Bloom Early Season Projection



26 June, 2017 Projection 06

This is the last projection before the final seasonal forecast, which will be made July 13 using a comprehensive set of models. The regular "Lake Erie Harmful Algal Bloom Bulletin" will start the first week in July. That bulletin is now an official NOAA product, rather than the experimental product of past years.

The severity of the western Lake Erie cyanobacterial harmful algal bloom (HAB) is dependent on input of bioavailable phosphorus during the loading season (March to July). This product provides an estimate based on a combination of measurements to date and model predictions into July. March and April had below average discharge and phosphorus loads into Lake Erie. Wet weather in May led to large phosphorus loads, and average loads for June. The total spring load exceeded the loads observed in mild bloom years. Thunderstorms this week may increase the load somewhat.

Total bioavailable phosphorus (TBP) is the sum of dissolved phosphorus (which is ~100% available for HAB development), and the portion of particulate phosphorus that is available for HAB development. The TBP loads are projected to July 31 using river forecasts from the National Weather Service Ohio River Forecast Center.



Stumpf (NOAA National Ocean Service), Johnson (Heidelberg University), and Dupuy (CSS at NOAA)

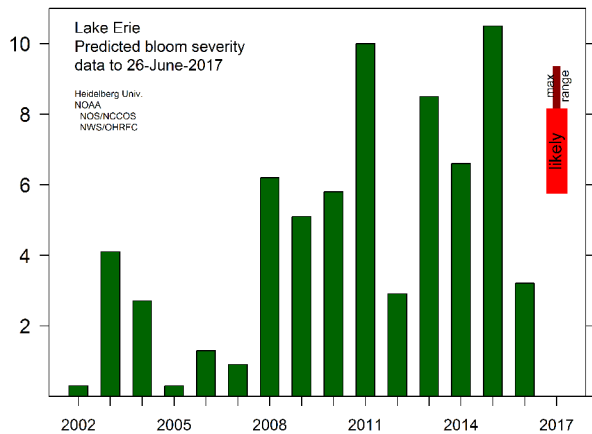


Figure 1. Projected bloom compared to previous years. The wide bar is the likely range of severity based on the forecast supplemented with data from the last 15 years. The narrow bar is the potential range of severity. Uncertainty in rainfall and models over the next few weeks determines the uncertainty in the potential bloom severity.

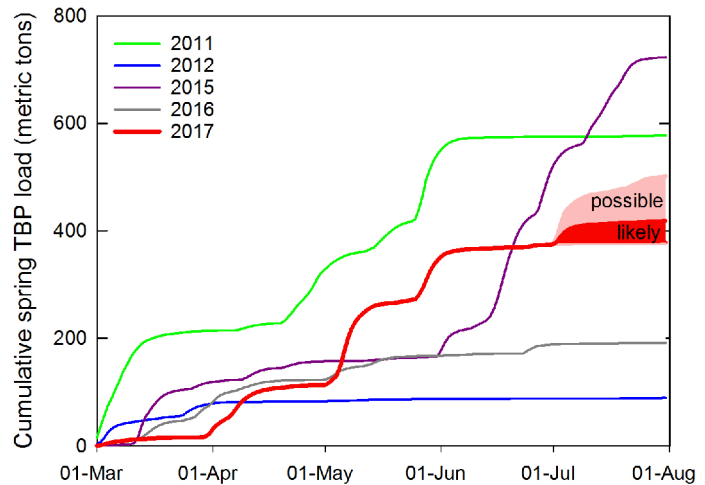


Figure 2. Cumulative total bioavailable phosphorus (TBP) loads for the Maumee River (based on Waterville). Each line denotes a different year. 2017 is in red, the solid line is the measured load to June 1, the likely range for the remainder of the loading season in red area and possible range in light red area. The load is highly likely to be lower than either 2011 or 2015.

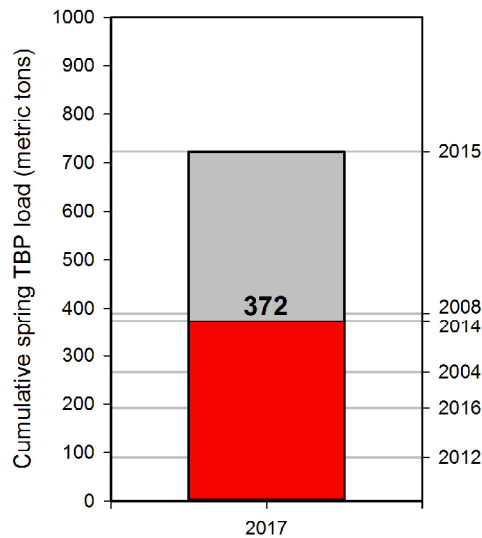


Figure 3. Total bioavailable phosphorus (TBP) load accumulated from the Maumee River near Waterville to date. The right axis denotes the TBP load from selected previous years. Current loads are about those observed in 2014.



Figure 4. True color image from June 24, 2017 taken by the MODIS on NASA's Aqua satellite. The plume of sediment from the Maumee River has decreased, as has the amount of sediment in the western basin.