

# Lake Erie Harmful Algal Bloom Early Season Projection

NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE AND THE NATIONAL CENTER FOR WATER QUALITY RESEARCH  
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NOAA and its research partners, using an ensemble modeling approach, predict that the 2015 western Lake Erie harmful algal bloom season will among the most severe in recent years and could become the second most severe behind the record-setting 2011 bloom.

The bloom will be expected to measure 8.7 on the severity index with 8.1 to potentially as high as 9.5. This is more severe than the last year's 6.5, and may equal or exceed 2013, which had the second worst bloom in this century. The severity index runs from a high of 10, which corresponds to the 2011 bloom, the worst ever observed, to zero. A severity above 5.0 indicates blooms of particular concern.

Models were developed by scientists at NOAA's [National Centers for Coastal Ocean Science](#) (NCCOS), the [University of Michigan, LimnoTech](#), the University of Michigan Cooperative Institute for Limnology and Ecosystems Research, and the NOAA [Great Lakes Environmental Research Laboratory](#) (GLERL). The models use nutrient load data collected by [Heidelberg University's National Center for Water Quality Research](#).

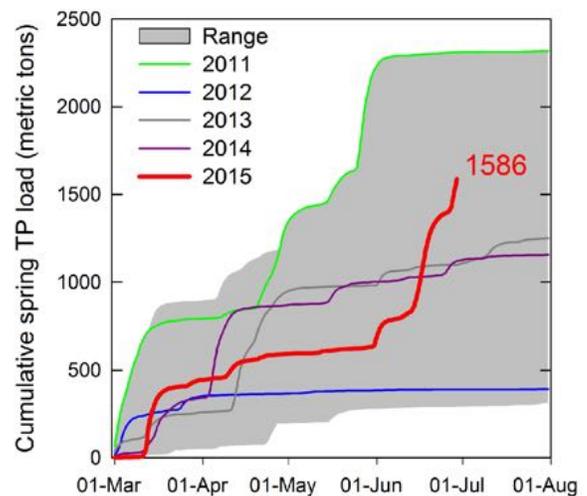
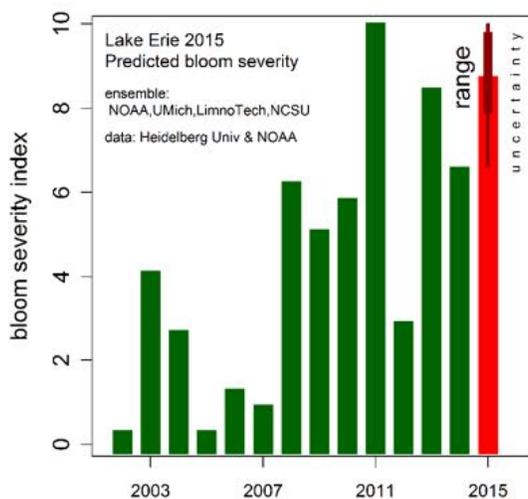


Figure 1. Projected bloom compared to previous years. The wide bar is the likely range of severity based on data from the last 15 years. The narrow bar is the potential range of severity.

Figure 2. Cumulative total phosphorus projected to June 29, compared to the range from 2000-2014 (gray and the most recent past years). The red line and text denotes data through June 29. Projection is based on past date and discharge through June 29. Nutrient loads have surpassed those of 2013 and 2014, but remain below 2011.



Figure 3: MODIS Tera true color image from July 6, 2015. Sediment in the lake is still suspended from recent storms. The high discharge in the Maumee River has also introduced sediment into the western basin, with the high sediment concentrations along the Ohio coast between Toledo and Sandusky.