National Water Quality Monitoring Council

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NWQMC & Sensor Workgroup Webinar Series

Great Lakes Tributary Nutrient and Sediment Monitoring Program and Its Surrogate Regression Approach for Computing Continuous Loads

Presented by

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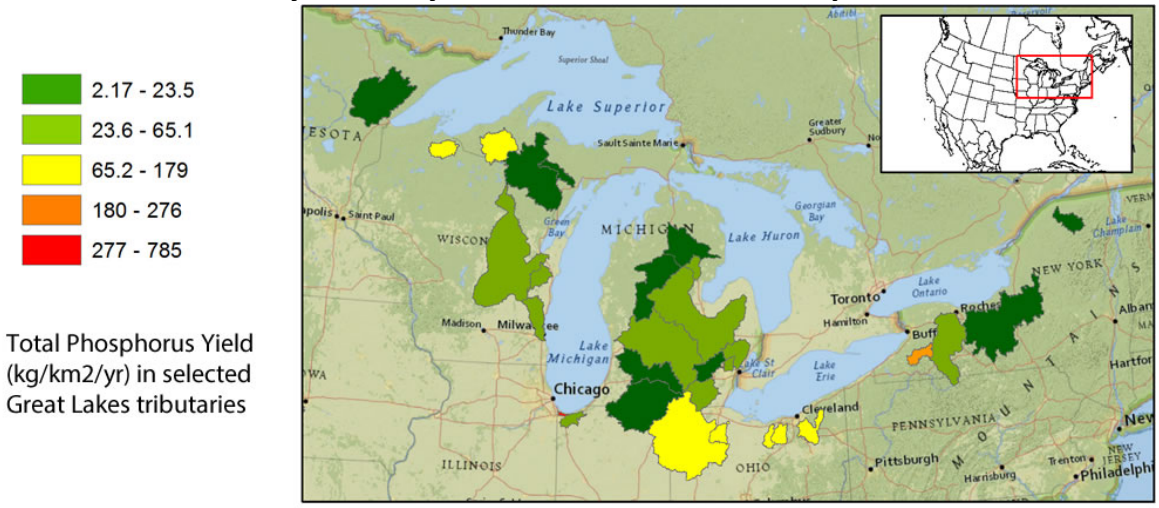
Tuesday, January 17th, 2017, 12:00 – 1:00 p.m. EST



Continuous flow and water quality parameters (turbidity, temperature, specific conductance, pH, and dissolved oxygen) are measured and discrete samples are collected for nutrients and suspended sediment in selected Great Lakes tributaries to document water quality and provide continuous (5-minute) loading information. Eutrophication problems in many Great Lakes estuaries has led to the establishment of the Great Lakes Water Quality Agreement, wherein specific goals were established for loading of some constituents. In 2010, the Great Lakes Restoration Initiative was launched by the U.S. Environmental Protection Agency to target problem areas, accelerate restoration efforts, and track progress of these efforts. In 2011, the U.S. Geological Survey established a monitoring program on 30 tributaries to the lakes, draining ~46% of the U.S. area and representing a spectrum of land uses. To estimate loadings, two regression models were developed for each constituent for each site: one using only unit-value flow and seasonality; and one using flow, seasonality, and continuous surrogates. The variables included in the final models for each constituent were chosen from the explanatory variables that worked "best" for all sites. In computing loads, if continuous surrogate data were unavailable for short periods, loads were computed with the flow and seasonality models. This information provides a better understanding of the variability and trends in the loading affecting the environmental health of the Great Lakes than traditional load estimation techniques.

The webinar is *free*; **pre-registration is required**. *Please login 10 minutes early.*

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