

Early warning and management can minimize impacts of harmful algal blooms

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The U.S. Geological Survey (USGS) hosted a briefing on April 4 to discuss the economic and public health impacts of harmful algal blooms. An algal bloom is a rapid accumulation of algae in freshwater or marine systems. It can be caused by various different species, both harmful and non-harmful, and may often be recognized by discoloration in the water caused by their pigment.

Cyanobacterial harmful algal blooms (cyanoHABs) in particular are a major public health concern. Certain types of cyanobacteria produce toxins that can cause mild to severe illnesses in humans and animals. The illnesses associated with these toxins have most commonly occurred after exposure through recreational activities or drinking water. During August 2016, for instance, at least 19 states issued public health advisories because of cyanoHABs.

The economic impacts of cyanoHABs include loss of recreational and tourism revenues, decreased property values, increased costs of drinking-water treatments, and commercial fisheries losses. A preliminary study on the economic impacts of various cyanoHABs in Lake Erie estimated that an event in 2014 cost the city of Toledo, Ohio \$65 million in lost benefits.

According to the USGS, understanding environmental influences of cyanoHABs is critical to developing effective forecasting, mitigation, and management strategies to better inform decision-making. Under the Harmful Algal Blooms and Hypoxia Research and Control Act (HABHRCA), ongoing integrated ecosystem studies are conducted throughout the United States by an Interagency Working Group (IWG-HABHRCA), which includes the USGS, National Oceanic and Atmospheric Association (NOAA), Environmental Protection Agency (EPA), and other member agencies, to better understand the diverse range of factors affecting the formation, duration, and intensity of cyanoHABs.

Sources: Environmental Protection Agency, U.S. Geological Survey
