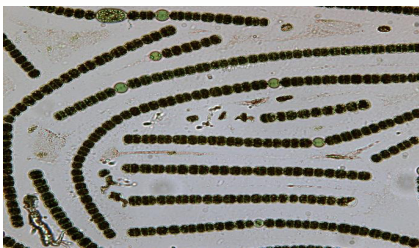


ALGAL BLOOMS THINGS TO KNOW

Algae are photosynthetic organisms naturally found in aquatic environments. Under the right conditions, they multiply to high concentrations called blooms. Some blooms are blue-green algae capable of producing toxins that can cause skin irritation, illness or in rare instances death in pets, livestock and people. These blooms are known as potential harmful algal blooms or pHABS. Since 2015, pHABS appear to be on the rise in North Carolina's Chowan River and Albemarle Sound, causing concern for communities and prompting responses by researchers, managers and citizens.



pHABS may be bright green or blue-green. They can migrate vertically in the water column or collect at the surface and be moved by wind and wave action, both of which can rapidly change the bloom's appearance. Photo: Colleen Karl



Microscopic view of bloom forming cyanobacteria from Edenton Bay, June 2017. Photo: N.C. Division of Water Resources

Learn More

National Oceanic and Atmospheric Administration: oceanservice.noaa.gov/hazards/hab/

North Carolina Department of Environmental Quality's Division of Water Resources: www.algae.nc.gov

North Carolina Health and Human Services: epi.publichealth.nc.gov/oe/a_z/algae.html

Report a Bloom or Fish Kill

Contact the N.C. Division of Water Resources at: go.ncsu.edu/reportahab

What causes an algal bloom?

Increased temperatures and nutrients, along with calm waters, provide favorable conditions for blue-green algae, also known as cyanobacteria, to grow rapidly and form large, visible mats or blooms. Otherwise, cyanobacteria cells are too small to be seen with the human eye. Freshwater algal blooms are increasing around the globe.

Why are some blooms harmful?

Some species of cyanobacteria produce toxins that may accumulate in high concentrations during blooms. One toxin of concern, microcystin can cause skin rashes and gastrointestinal issues, as well as damage to the liver, kidneys and nervous system. Children, elderly adults and people with weakened immune systems may be more susceptible to the effects. Toxins can also be fatal to pets, livestock and wildlife that drink or come into contact with contaminated water.

Can I eat fish taken from affected waters?

Fish and shellfish exposed to affected waters can absorb toxins into their bodies. While no one has reported getting sick from eating fish caught during a bloom, the health risks are still unknown and being studied. The U.S. Food and Drug Administration recommends trimming the skin, fat and internal organs — areas where harmful pollutants are most likely to accumulate — before cooking fish. The World Health Organization recommends eating fish exposed to blue-green algae in moderation.

How can I keep my family safe?

You cannot tell if a bloom is toxic just by looking at it. Do not take chances. Never

swim in water during a bloom. Keep pets out of the water. If they come in contact with affected water, thoroughly wash them off using another water source. Never drink or cook with affected water. Boiling will not remove the toxins if present. See a healthcare provider if you experience symptoms, such as confusion, vomiting and diarrhea, after exposure to potentially affected waters.

What are the environmental impacts?

As the algae die, other bacteria use dissolved oxygen in the water to decompose and consume the dead algae, resulting in low oxygen levels. This can lead to die offs of aquatic organisms. Mammals, birds and fish can get sick or die after drinking from or exposure to water containing toxins created by pHABS.

How can I help prevent algal blooms?

Blue-green algae thrive on nutrients such as nitrogen and phosphorus. You can help reduce nutrient loads in local waterways:

- Limit use of fertilizers and follow directions during application.
- Minimize and control the amount of stormwater leaving your property.
- Pick up and dispose of pet waste.
- Maintain your septic systems.

What is being done about algal blooms?

Local, state and national organizations are studying algal blooms as they increase across the country. In North Carolina, work is focused on understanding toxins produced by cyanobacteria and their impacts, as well as forecasting potential blooms. Managers continue to identify strategies to improve water quality and to communicate regularly with the public about health risks associated with blooms.



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