



HABs Weekly Newsletter

A product of the 2021 Cayuga Lake HABs Monitoring Program

JULY 6, 2021

Photo of Myers Point by Bill Hecht

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HABs Update

by CLWN Staff Intern Alora Cisneroz

The past week has been eventful on Cayuga Lake—both for algae and for residents. While we were busy planning fourth of July celebrations, there were two newly reported algal blooms on the Northeast shore that are potentially harmful. Take a look at the chart on the next page to see the details of the bloom locations and their compositions.

As always, you can find the most up-to-date information on the [CSI reporting page](#).

In case you missed last week's newsletter, you are now able to find a copy of it on the CLWN website under the [2021 HABs update page](#). All past and future HABs newsletters will be made publicly available there.

HABs Update

As you can read in the technical chart below, one bloom was reported on June 29th and another only two days later. Considering that both blooms are similar in appearance, microscopy, locations, and reporting time, they are currently being considered continuations of one another, and not originally different blooms.

As Cyanobacteria have been detected in the blooms, please maintain caution as the blooms are potentially harmful. The CSI reporting page will be updated with lab analysis to help make this final determination.



Photo of bloom reported on June 29th.
Image Credit: [CSI Reporting Map](#)



Photo of bloom reported on July 1st.
Image Credit: [CSI Reporting Map](#)



Map Indicating the location of the blooms from the past week (Indicated with the black pins).
Image credit: [CSI Reporting Map](#)

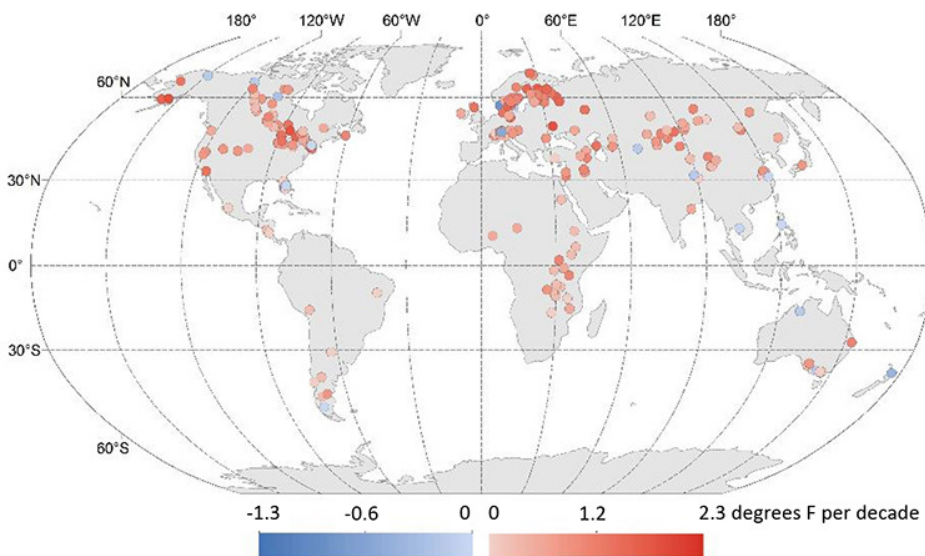
HABs Technical Chart

Bloom Code	Date Observed and Sampled	Location Description	Bloom Extent	Microscopy	Total Chlorophyll (ug/L)	Microcystin Toxin (ug/L)	Bloom Status
21-3458-B2	6/29/2021	Near the shoreline of Cayuga Outfitters Marina in the Village of Cayuga.	Small Localized	Dense colonies of Dolichospermum, moderate Microcystis, sparse Limnoraphis, and dense unknown tiny filamentous cyanobacteria.	13,746	Results Pending	Cyanobacteria Bloom (HAB): Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
	7/1/2021	Bloom located along the shoreline of waterfront properties on Water St. north of the Village of Cayuga. Bloom reported to be widespread in that northern bay.	Widespread	Dense to moderate colonies of Dolichospermum and Microcystis.	Results Pending	Results Pending	Cyanobacteria Bloom (HAB): Based on field reports and photographs this is likely the continuation of bloom 21-3458-B2 that occurred on June 29, 2021. Results from lab analyses will help make this determination.

Climate Change and HABs

As the Pacific Northwest of North America is currently being ravaged by an unusually brutal heat wave, the public health impacts of climate change are top of mind for many people. As the heat-caused death toll climbs to nearly 600 across Canada and the U.S. ([NPR](#)), the *direct* dangers of global temperature increases are quite clear. However, climate change has a host of more indirect and potentially less obvious dangers—one of those being Harmful Algal Blooms.

As global temperatures increase with the accumulation of greenhouse gases in the atmosphere, bodies of water also become warmer in order to meet temperature equilibrium. Combined with increased nutrient runoff from more extreme weather events, this rise in aquatic temperatures is understood to be one of the main drivers behind worsening harmful algal blooms. This is because many cyanobacteria (blue-green algae) experience their maximum growth rates in warmer, nutrient-rich waters. More warm waters and nutrient runoff mean that the range, frequency, and intensity of HABs will continue to increase, allowing HABs to migrate to new, previously unexposed ecosystems and communities.



This map shows the global changes in lake temperatures over the past 25 years. Red shades indicate warming; blue shades indicate cooling. [This NASA and NSF study](#) found Earth's lakes are warming about 0.61 degrees Fahrenheit per decade on average, faster than overall warming rates for the ocean and atmosphere ([Source](#)). Image Credit: Illinois State University/USGS/California University of Pennsylvania.



Climate change will continue to cause more extreme weather events (drought and large amounts of rain) which will increase nutrient runoff, worsening HABs ([Image Credit](#))

Climate Change and HABs

Without the necessary protective measures in place (e.g. nutrient runoff regulations, monitoring programs, public communication, etc.), many new people could be seriously sickened ([Gobler](#)). [Watch this excellent video](#) to witness how, without protective measures in place, Lake Erie's harmful algal bloom (which was worsened by climate change) caused a drinking water crisis in Toledo.



A boat goes through a HAB in Lake Erie during the 2014 Toledo water crisis. For 72 hours residents of Toledo could not use their water because of the a microcystin-producing bloom in the water that directly fed into into the city's intake pipe ([Image Credit](#)).

While climate change can seem like a problem with more land-based public health implications, such as the deadly heatwaves currently hitting the news, we cannot forget about the ways in which public health also depends on water. A fight against HABs, therefore, must also be a fight against climate change.

Art Feature



This week's art feature is an energetic, joyful photo titled "Skate Sailing, Cayuga Lake" [c. 1896]. McGraw Tower and McGraw Hall can just be seen in the center background of the photo. Questions to consider: What kinds of recreation have you personally enjoyed on Cayuga Lake? Why is it important for future generations to be able to have access to the lake for fun?

Credit: Archives picture collection, #13-6-2497. Division of Rare and Manuscript Collections, Cornell University Library.

FAQs

What is the HABs Monitoring Program?

The Cayuga Lake HABs Monitoring Program is a collaborative effort led by a local consortium of three nonprofits: the Community Science Institute (CSI), the Cayuga Lake Watershed Network (CLWN), and Discover Cayuga Lake (DCL), working in collaboration with the New York State Department of Environmental Conservation (NYSDEC). Through this monitoring program, we seek to protect public health, water quality, and the larger ecosystem from HABs.

How can I know if there is a HAB near me?

The fastest way is to [look at our HABs Reporting Page](#), which provides an updated map with all the critical information. NY's Department of Environmental Conservation (DEC) also [maintains a HABs map](#). Additionally, this email newsletter will also communicate any reported HABs for the past week.

Where can I report a potential HAB?

[Use this form](#) or email habshotline@gmail.com. Please be sure to include all of the information required: personal information (your name, email, and phone number), bloom information (observation date and time and location of the bloom), and two pictures (one close up to show bloom composition and one from far away to show bloom extent).

If I have more questions, who can I contact?

[Cayuga Lake Watershed Network \(CLWN\)](#)

CLWN Executive Director, Hilary Lambert: steward@cayugalake.org
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[Discover Cayuga Lake \(DCL\)](#)

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