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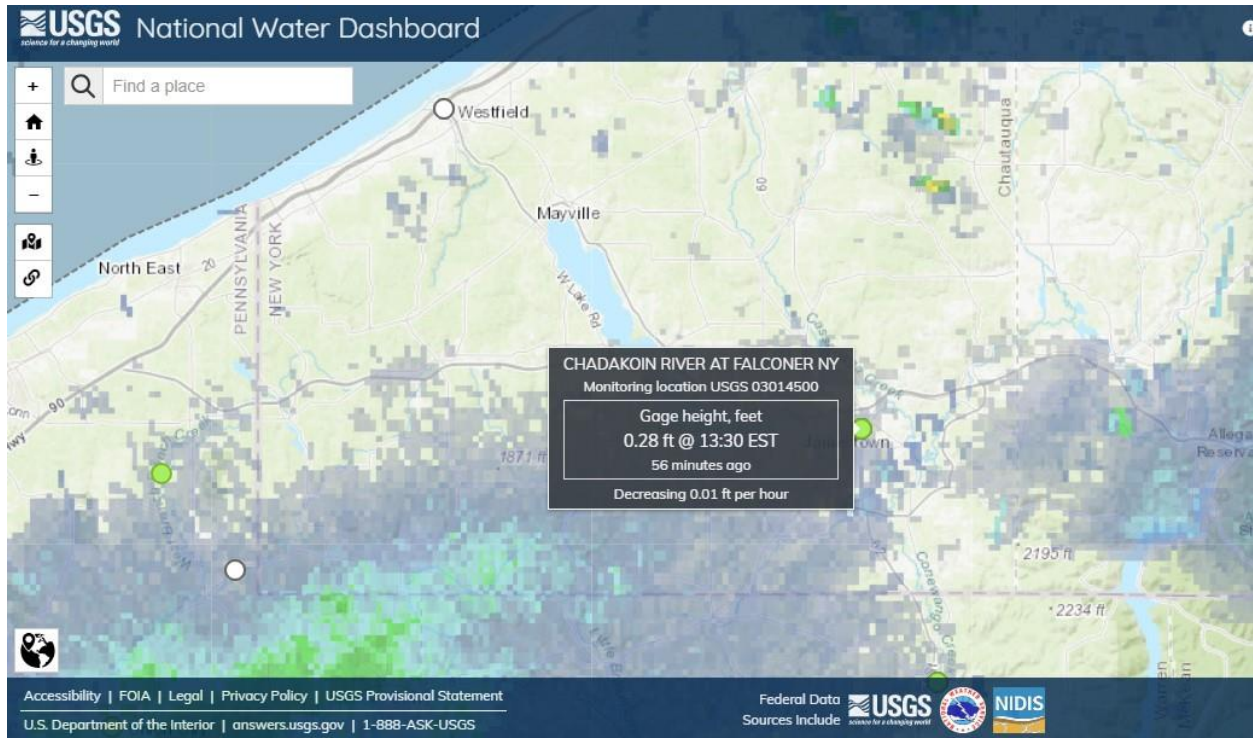


Figure 1. Pictured above is a screenshot of the United States Geological Survey's National Water Dashboard, one of many national environmental databases. Chautauqua Institution and The Jefferson Project are currently developing their own Chautauqua Lake dashboard to display research data.

Lake Dashboard In Development

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One of the more common ways that the public can access environmental information these days is through live dashboards. Chances are you have used one of these recently, either by checking a website or an app on your phone. Dashboards are often used to display weather information or data gathered from live cameras or sensors. You can also think of similar platforms like Google Maps, which display lots of different information visually about a specific area. In recent years these platforms have become more and more popular in the world of lake science, and are often operated by research teams and academic institutions monitoring our waterbodies. Now, new steps are being taken to develop these types of dashboards specifically for Chautauqua Lake.

The Jefferson Project expanded its program to our lake beginning in 2020, and since then has rolled out a system of scientific monitoring modeled after its longtime study of Lake George. Central to this research are two vertical profilers, which have been deployed to the north and south basins of the lake to record information about the environment. Now The Jefferson Project is constructing several stream monitoring stations at major tributaries. These stations, which were made possible thanks to funding from the Ralph C. Sheldon Foundation and the leadership of Chautauqua Institution, are expected to be operational this year and will gather water quality information about the creeks feeding the lake. A primary goal of this work is to improve our understanding of the lake's nutrient budget (both internal and external sources), and with it our understanding of impairments like harmful algal blooms. For its work on Lake George, The Jefferson Project operates a live dashboard displaying data to the public in real time. During the research season anyone can visit this webpage to see what information is being collected by vertical profilers and stream stations. Now, partners are working to bring those same capabilities to the sensors on Chautauqua Lake.

In February the Alliance awarded funding to Chautauqua Institution to begin building a realtime Chautauqua Lake dashboard for The Jefferson Project. This project is expected to use a similar template to the Lake George dashboard, displaying a live feed of sensor icons on an interactive map. That means that anyone can pick up their phone or laptop and have ready access to the data that researchers are monitoring.

Dashboards are built in different ways depending on the type of data they contain and their target audience. Many organizations use multiple complementary dashboards when they manage a wide range of information. For example New York State maintains several different dashboards hosting related data sets, such as its Environmental Resources Mapper and Info Locator. Government agencies like the United States Geological Survey and the National Oceanic and Atmospheric Administration operate lots of different dashboards for different purposes, including the live lake level gauge located in Bemus Point. Anyone can access those live lake level readings as well as graphs of the levels over time. The USGS also operates a National Water Dashboard that displays live information from its stream monitoring stations. Locally, the Chautauqua Lake Association's website includes a dashboard of weather conditions, as well as a live lake camera that offers a look at conditions on the water. The Chautauqua Watershed Conservancy maintains an interactive map of its preserves, providing information to the public about how those areas can be enjoyed.

Thanks to significant investments made in new research programs, there are more sources of Chautauqua Lake data than ever before. The Alliance through its website is continuing to prioritize open access to as much of this information as possible. Currently many of the platforms hosting this information can be found in simple lists like those on our Resources and Lake Data/Survey pages. We are continuing to evaluate options for displaying new and existing information in more user-friendly formats. Rather than just using a list, an interactive map could function as a visual table of contents, allowing users to easily access different data sets from one central Chautauqua Lake hub.

These new tools allow us to quickly put information in front of more stakeholders and decision makers than in the past. However, while they can help improve communication of data, they don't provide answers to all the hard questions of lake and watershed management. People will still need to determine what to do and when. No dashboard or spreadsheet will make our decisions for us. Tradeoffs, value judgements, and intangibles always linger at the margins of even the finest datasets. What a good

dashboard *can* do is broaden our community's access to reliable information and elevate stakeholder engagement — turning good questions into better questions and helping us work smarter for the lake.