

# Navigating Community Science Institute's Online Water Quality Databases

CWIO Meeting  
6/28/2023 7 PM

Grascen Shidemantle, Ph.D.  
Executive Director





# Agenda

- Introduction to CSI
- Streams and Lakes Chemistry Database
  - Database tour
  - How to download data
- NEW HABs Database!
  - Database tour
- Q&A + Data Exploration



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# Community Science Institute

Nonprofit  
501(c)3  
Organization

NYSDOH and  
EPA Certified  
Lab

Lake &  
Stream  
Chemistry

Volunteer  
Water  
Monitoring  
Partnerships

HABs

BMI  
Monitoring

Public Water  
Quality Database

Outreach and  
Education

## CSI's Mission

To empower communities to protect water quality through volunteer stream and lake monitoring.



# CSI Water Quality Monitoring Partnerships

## Four Monitoring Partnerships

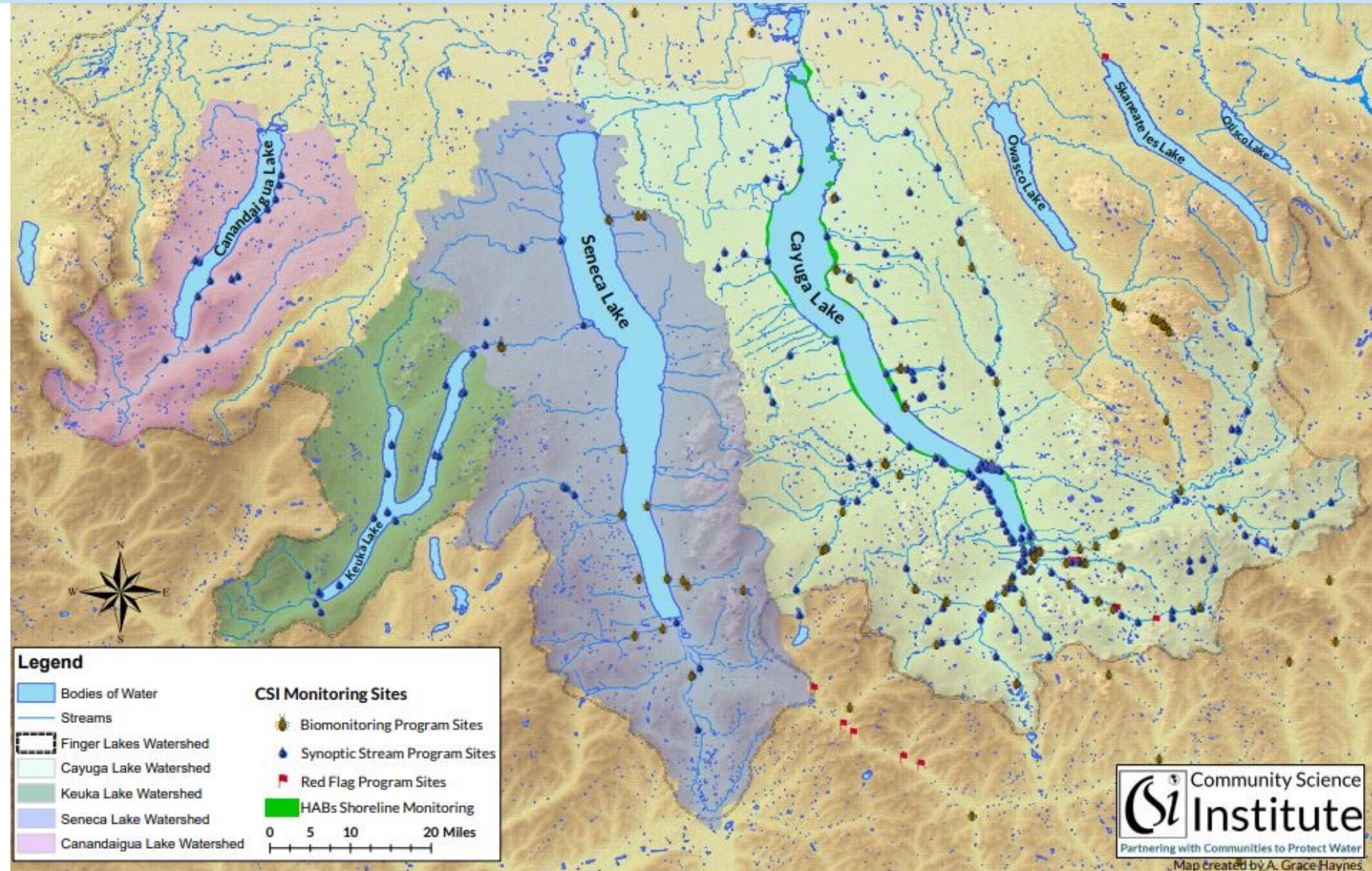
Synoptic Stream and Lake  
Chemistry Monitoring

Harmful Algal Bloom (HAB)  
Monitoring

Biomonitoring  
(Benthic Macroinvertebrate  
Monitoring)

Red Flag Monthly Stream  
Monitoring

CSI recruits, trains,  
and coordinates  
over 250  
volunteers





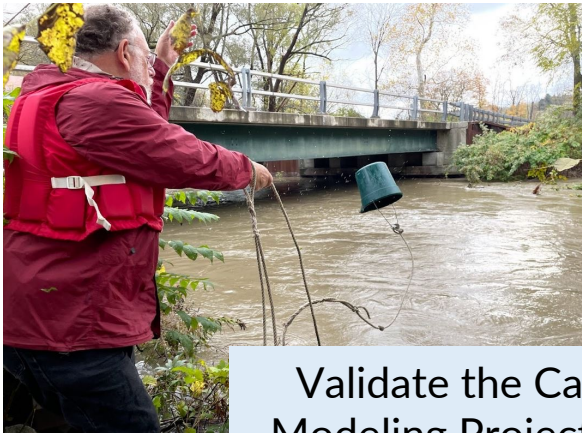
# CSI data makes a difference



Removal of the southern end of Cayuga Lake from the 303(d) list for pathogenic bacteria

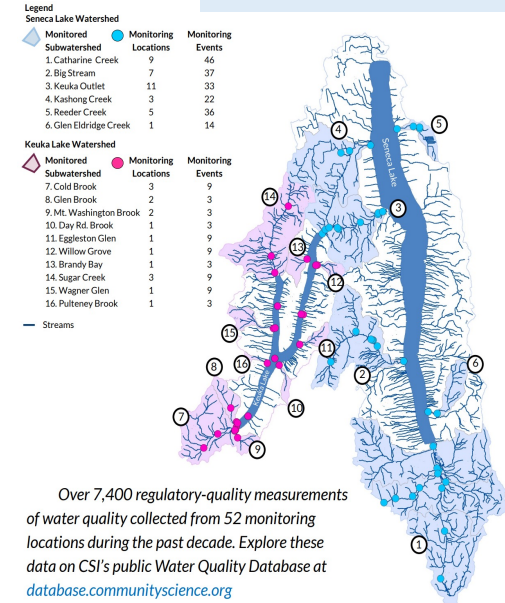


Trumansburg Wastewater Plant upgrades



Validate the Cayuga Lake Modeling Project's model of Fall Creek phosphorus loading

Seneca-Keuka 9E Plan



## Peer-reviewed research

### Using Citizen Based Science to Provide Insights on Toxic Cyanobacteria Blooms in a New York Lake

Howarth, R., Swaney, D., Smith, C., Marino, R., Figueroa, A., & Penningroth, S. (2023). Using Citizen Based Science to Provide Insights on Toxic Cyanobacteria Blooms in a New York Lake. Abstract of presentation at the meeting of the Association of the Sciences of Limnology and Oceanography (ASLO) "Resilience and Recovery in Aquatic Ecosystems" - Mallorca, Spain; June 4-9, 2023

### Community-Based Risk Assessment of Water Contamination from High-Volume Horizontal Hydraulic Fracturing

Penningroth, S. M., Yarrow, M. M., Figueroa, A. X., Bowen, R. J., & Delgado, S. (2013). Community-Based Risk Assessment of Water Contamination from High-Volume Horizontal Hydraulic Fracturing. NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy, 23(1), 137-166. <https://doi.org/10.2190/NS.23.1.i>

### Long-Term Study of Soluble Reactive Phosphorus Concentration in Fall Creek and Comparison to Northeastern Tributaries of Cayuga Lake, NY: Implications for Watershed Monitoring and Management

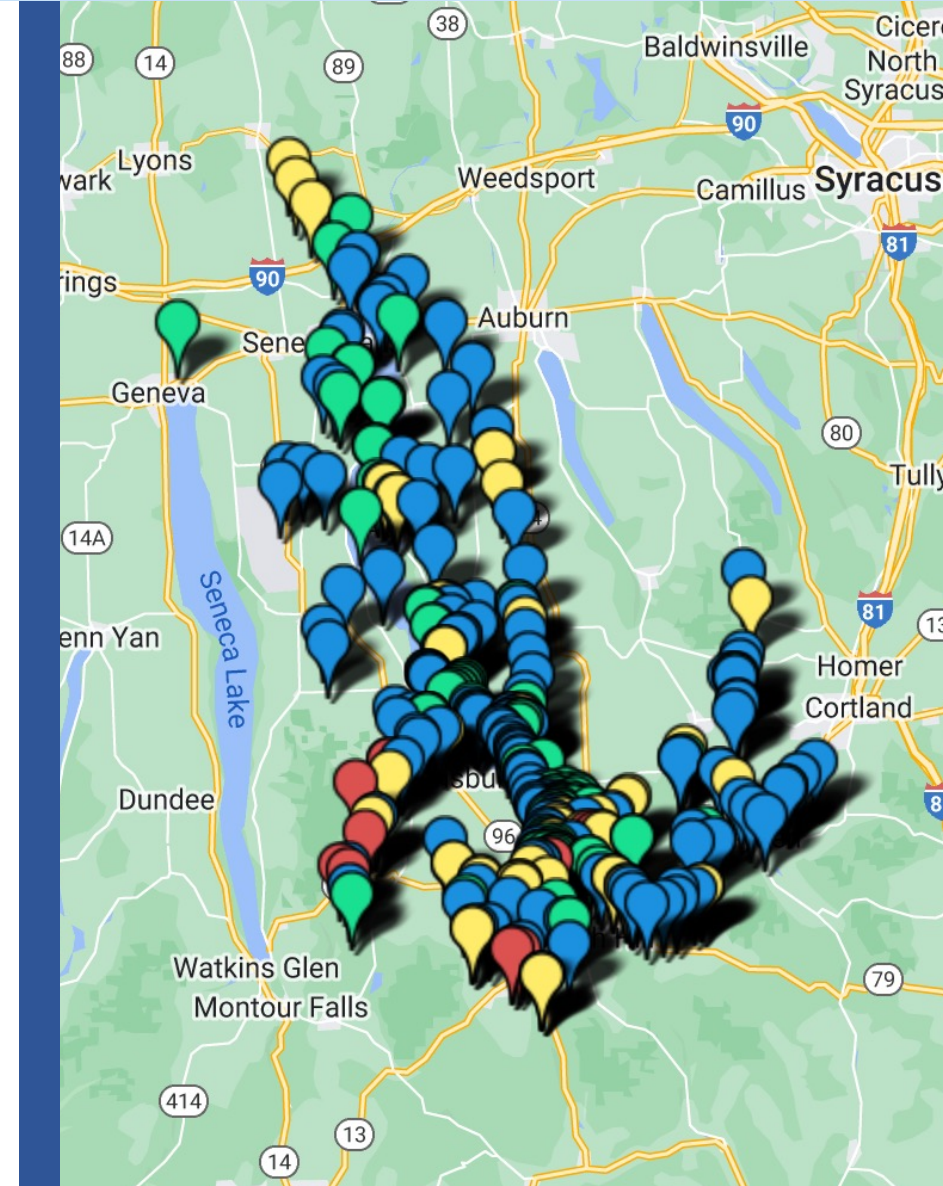
O'Leary, N., Johnston, R., Gardner, E.L., Penningroth, S.M., Bouldin, D.R. Long-Term Study of Soluble Reactive Phosphorus Concentration in Fall Creek and Comparison to Northeastern Tributaries of Cayuga Lake, NY: Implications for Watershed Monitoring and Management. Water 2019, 11, 2075. <https://doi.org/10.3390/w11102075>

Read "The Power of Community-Collected Data" for more details: <http://www.communityscience.org/2022/09/22/power-of-community-collected-data/>



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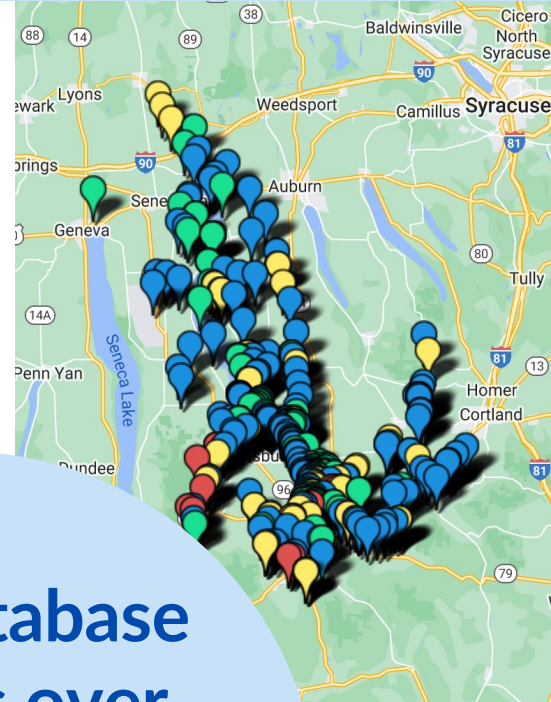




# CSI's Public Streams and Lakes Chemistry Database

**Which of the following applies to you?**

- A. I didn't know that CSI had a water quality database!
- B. I knew CSI had a water quality database, but I've never tried to use it
- C. I have tried to use CSI's water quality database, but I've had troubles using it
- D. I have used (or regularly use) CSI's database and find it easy to use



**Our database  
houses over  
100,000  
measurements of  
stream and lake  
water quality**

**[www.database.communityscience.org](http://www.database.communityscience.org)**

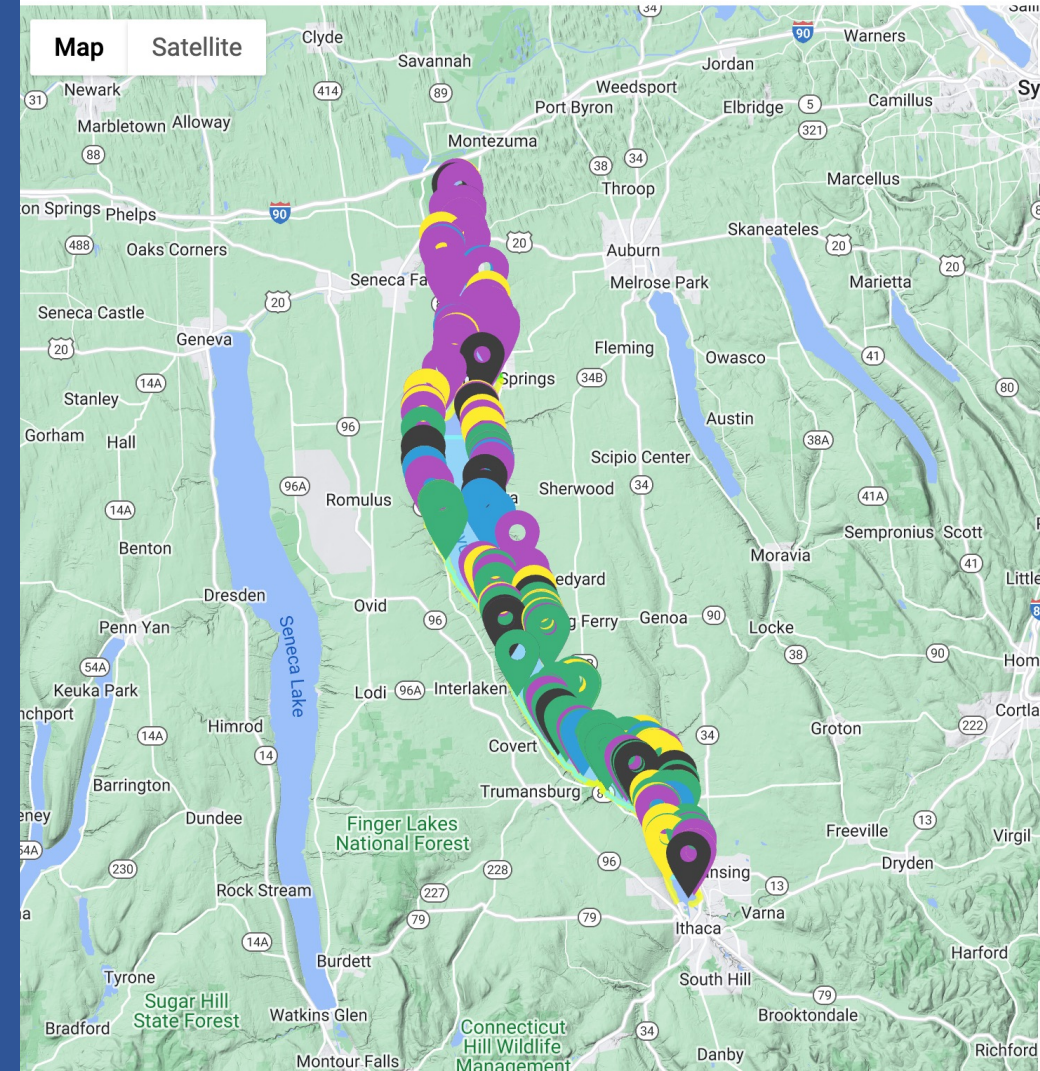


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Map defaults to display all HABs since 2018. Use drop-down menu to select recent bloom reports

All Blooms since 2018



# CSI's Public HABs Database

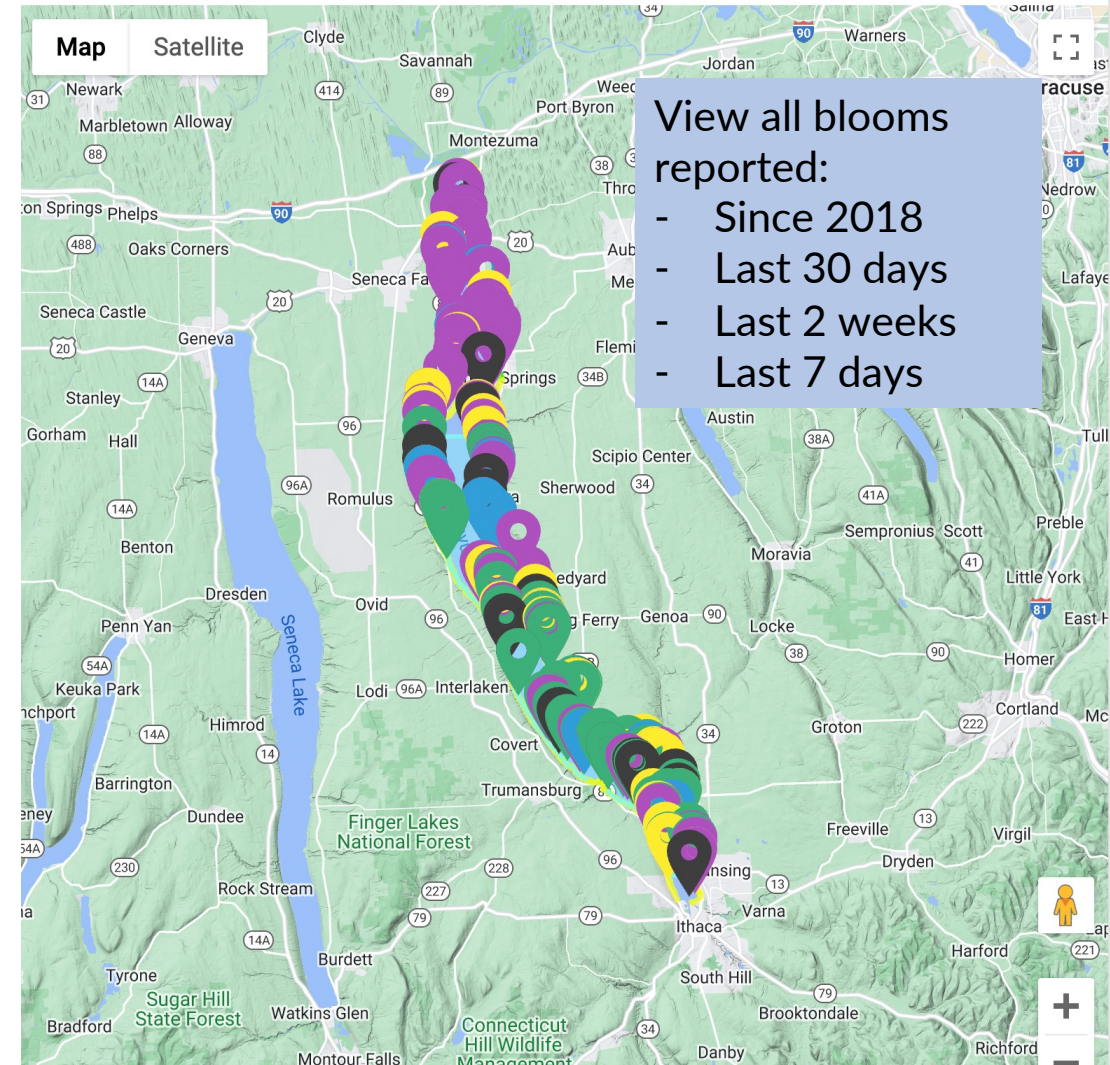
Our database houses data on all HABs reported to CSI since 2018 and provides near-real time updates on recent blooms

Thank you to Tompkins County Whole Health for funding the development of our HABs database!

<http://www.database.communityscience.org/hab>

Map defaults to display all HABs since 2018. Use drop-down menu to select recent bloom reports

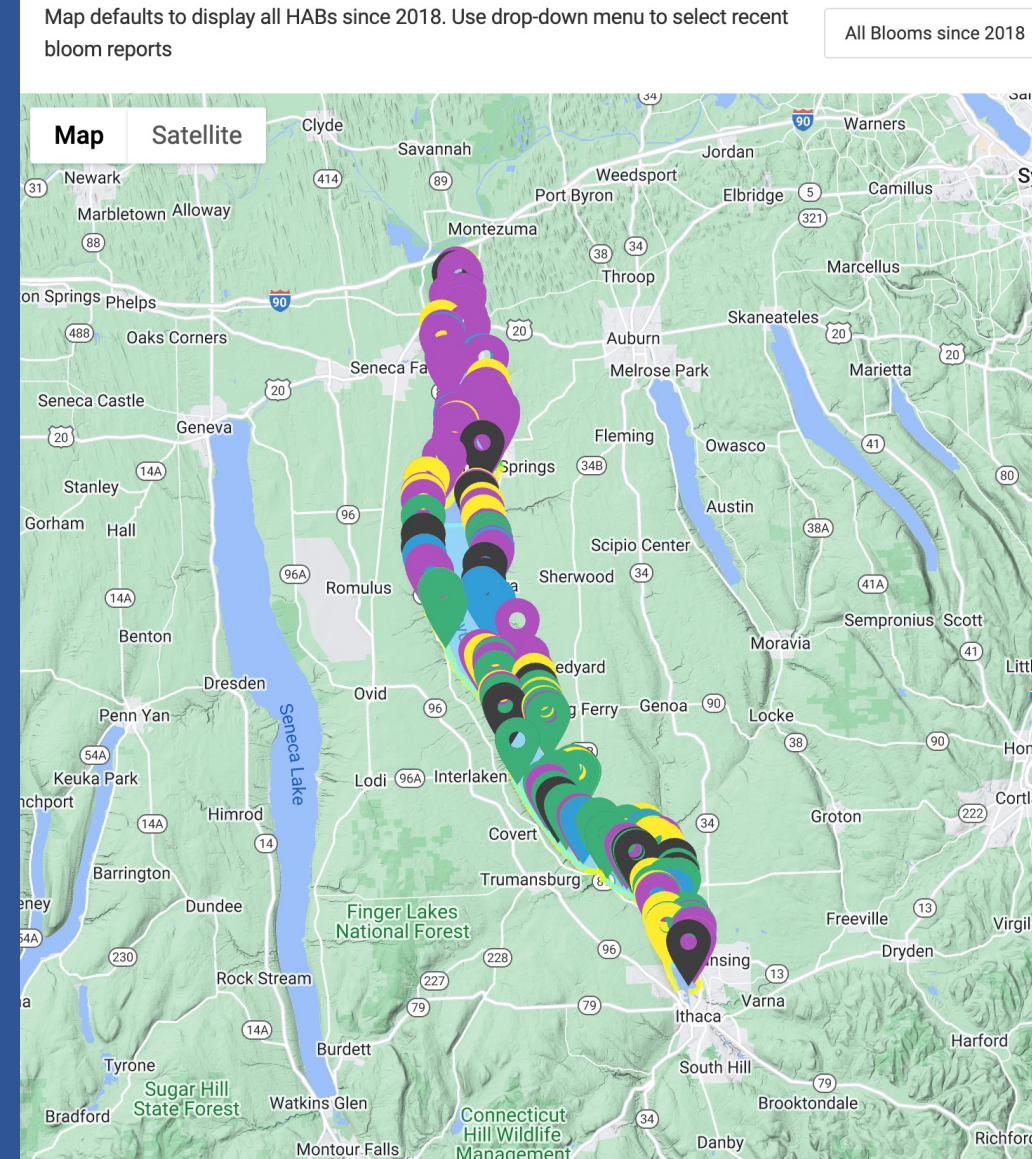
All Blooms since 2018 ▾





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# Thank you!

Need more help navigating our databases?  
Email me at [gshidemantle@communityscience.org](mailto:gshidemantle@communityscience.org) to  
set up a meeting.



[www.communityscience.org](http://www.communityscience.org)



@communityscienceinstitute



@CSlwater

