

Program Name		Summary	Participants	Website/Sources	State	Active/Inactive	Intended data use	Contact Info	Internal References	External References
A day in the life of the Hudson & Harbor	Water (Surface Water)	Students collect scientific information to create snapshots of the river at dozens of locations, then share their data via the web so they can better understand how their piece of the river fits into the larger Hudson estuary ecosystem. "A Day in the Life" is sponsored by DEC's Hudson River Estuary Program, with assistance from the Lamont-Doherty Earth Observatory of Columbia University.	Leader: New York State	https://www.dec.ny.gov/lands/47285.html	New York	Active	Information	Hrep@dec.ny.gov; 845-256-3016	Videos about the work: https://www.youtube.com/watch?v=HeGa2zgDfg&feature=youtu.be ; https://www.youtube.com/watch?v=toD2yChvX1O&feature=youtu.be ; https://www.youtube.com/watch?v=RuZ3ms0U8aM&feature=youtu.be	https://www.ldeo.columbia.edu/edu/k12/snapshotday/
Alliance for Aquatic Resource Monitoring (ALLARM)	Water (Surface Water)	ALLARM is a college-based organization out of Dickinson College that trains and assists watershed groups in building up capacity. It serves as an intermediary for states that do not have the ability to provide such assistance themselves. ALLARM has placed a number of its workshop tools and technical resources online to make its technical assistance resources more widely available.	Leader: Dickinson College	https://www.dickinson.edu/allarm	Pennsylvania	Active	Information	ALLARM: (717) 245-1565, allarm@dickinson.edu	ALLARM's 2019 Annual report: https://www.dickinson.edu/download/downloads/id/13315/allarms_2019_annual_report.pdf ;	video about ALLARM: https://youtu.be/tvVFMoTbRaw
Arizona Water Watch	Water (Surface Water)	State agency program assists citizen volunteers to monitor surface waters. Volunteers are invited and trained to collect water samples, design studies, find pollution sources, and monitor restoration projects. Program makes extensive use of phone apps to help volunteers gather and report information accurately. Even untrained volunteers, such as tourists, can report basic information like whether an intermittent stream is flowing.	Leader: Arizona Department of Environmental Quality	https://azdeq.gov/programs/azww	Arizona	Active	Agency management	Program Coordinator: 602-771-4506, ms14@azdeq.gov	A series of youtube videos from Arizona Water Watch: https://youtu.be/lyE5_Y5paGQ ;	https://gilvalleycentral.net/adhs-blog-as-you-head-to-the-water-be-mindful-of-harmful-algal-blooms/ ;
CA Statewide Groundwater Elevation Monitoring Program (CASGEM)	Water (Groundwater)	A locally managed online tool that allows private well owners and others to monitor all of California's alluvial groundwater basins on a regular basis. This tool is designed to help reach the goals set out by the state's Sustainable Groundwater Management Act, as it will help the state improve groundwater resource management.	Leader: State of California	https://water.ca.gov/Programs/Groundwater-Management/Groundwater-Elevation-Monitoring-CASGEM	California	Active	Agency management	DWR Headquarters Tom Lutterman Senior Engr. Geologist Sustainable Groundwater Management Branch 916-651-9263 Thomas.Lutterman@water.ca.gov		
Chesapeake Monitoring Cooperative	Water (Surface Water)	Part of the Alliance for the Chesapeake. Trains and assists watershed groups to build capacity. The Cooperative provides technical, programmatic, and outreach support and training to integrate volunteer-based water quality and macroinvertebrate monitoring data into a centralized data hub, the Chesapeake Data Explorer. These data are publicly available and are used by the Chesapeake Bay Program to assess the health of the Bay.	Leader: Alliance for the Chesapeake	https://www.chesapeakemonitoringcoop.org/	Virginia	Active	Information, Agency management	Liz Chudoba, 804-793-8785	Data visualization map on website: https://www.chesapeakemonitoringcoop.org/	https://eos.org/features/the-capitals-waterways-could-be-swimmable-by-2030 ;
Drain Detectives program	Water	The purpose of the two-year Drain Detectives project (2018–20) was to try new approaches to monitor stormwater drains in Port Phillip Bay, which is located in Victoria, Australia. 57 community members and 25 council officers were trained in the monitoring of drain flow and water quality, and the 82 total trained citizen scientists used smartphones to photograph, record observations and take note of data, which were then logged online.	Leader: Environment Protection Authority Victoria Stakeholders: Local community members	https://www.epa.vic.gov.au/for-community/get-involved/citizen-science-program/citizen-science-projects/drain-detectives	Melbourne, Australia	Inactive — two-year program from 2018-2020	Information, Agency management	EPA tel:1300372842		https://theoryandpractice.citizenscienceassociation.org/articles/10.5334/cstp.383/
Fond du Lac Band of Lake Superior Chippewa Water Quality Monitoring	Water (Surface Water)	The organization has protected and monitored the region's aquatic resources since 1998, which includes more than 3,000 acres of lakes, 96 miles of streams, and 44,000 acres of wetlands. The organization ensures the waters remain healthy and safe, and makes sure the water can support the tribe along with the expected aquatic communities such as algae and macrophytes, zooplankton and benthic macroinvertebrates and various fish species.	Leader: Fond du Lac Band of Lake Superior Chippewa	www.fdlrez.com/RM/waterquality.htm	Minnesota	Active	Information	Wayne Dupuis (Environmental Program Manager): waynedupuis@fdlrez.com, 218/878-7106	2021 Nonpoint Source Pollution Assessment and Management Report: https://www.fdlrez.com/RM/downloads/NPSAssessmentReport2021.pdf	
Friends of the Shenandoah River Monitoring Program	Water (Surface Water)	Twice a month, volunteer citizen scientists collect water quality samples in designated sites from across seven counties located in the Shenandoah Valley. The group analyzes these samples in a Virginia Department of Environmental Quality Level III accredited water quality analysis lab at Shenandoah University. Each county has one lead monitor who coordinates group efforts, trains new members, and corresponds with the university lab. Data for each site is displayed on the website alongside an interactive map. This group's efforts have aided the Virginia Department of Environmental Quality and the Environmental Protection Agency in setting regulatory standards and monitoring and studying areas of concern.	Leader: Friends of the Shenandoah River Stakeholder: Virginia Department of Environmental Quality	https://fosr.org/	Virginia and West Virginia	Active	Information, Agency management	Friends of the Shenandoah River Laboratory: friendsofshenandoahriver@gmail.com ; (540) 665-1286	Data visualization map: http://waterwindow.fosr.org/	https://loudounnow.com/2022/01/07/goose-creek-association-announces-multiyear-creek-watch/
Indigenous Observation Network (ION)	Water (Surface Water), Environmental Justice	Led by the Yukon River Inter-Tribal Watershed Council in partnership with the USGS National Research Program, the Indigenous Observation Network (ION) monitors a 2,300-mile-long river system along the Yukon River through the collaboration of Indigenous governmental bodies and federal agencies. Data on water quality and permafrost is used to assess development and how climate change is affecting the ecosystem. This data is mostly gathered by tribal community volunteers, and the ION integrates traditional Indigenous knowledge along with modern scientific methods and technologies into its design. Water quality data is used for public health efforts and pollution analysis, providing a basis for governmental organizations to set water quality standards. ION's data also informs the Yukon River Watershed Plan, which is a long-term management plan for the preservation of the river basin against climate change.	Leader: Yukon River Inter-Tribal Watershed Council Stakeholder: 73 First Nations and Tribes, US Geological Survey National Research Program	https://www.citizenscience.gov/catalog/18/#	Alaska	Active	Information, Agency management	emutter@yritwc.org	data visualization: https://yukon.fieldscope.org/observations	CSR

Internet of Water Partnership	Water (Surface Water)	The Internet of Water Coalition is a group that works with government partners on all levels of government to build foundational water data infrastructure to help communities and organizations in the U.S. make more informed decisions. Through collaboration and engagement, it helps people modernize their water data infrastructure and improve water management decision-making to improve sustainability, equity and resiliency. It provides tools that improve the discoverability, accessibility and usability of water data, as well as host educational programs for users.	Leaders: A coalition of Duke University Nicholas Institute's Water Policy Program, Lincoln Institute Center for Geospatial Solutions, Consortium of Universities for the Advancement of Hydrologic Sciences, Water Data Collaborative, Western States Water Council	https://internetofwater.org/who-we-are/	California, New Mexico	Active	Information, Agency management	Greg Gearhart, CA water board, Kurt. Souza@waterboards.ca.gov	https://today.duke.edu/2021/11/new-infrastructure-bill-gives-duke-based-program-national-role https://www.fastcompany.com/90710546/this-mesmerizing-map-lets-you-follow-the-path-of-a-drop-of-water-anywhere-in-the-world
IOWATER	Water (Surface Water)	IOWATER was a program created by the Iowa Department of Natural Resources (DNR) with the goal of educating volunteers on how to monitor water quality indicators in their local watersheds. Data from this project flagged areas of concern for the DNR or other agencies to investigate further. In 2016, IOWATER was discontinued and replaced by a network of locally led projects aimed at locally addressing water monitoring needs of communities and watersheds.	Leader: Iowa Department of Natural Resources	https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring/Volunteer-Water-Monitoring	Iowa	Inactive	Agency management	Steve Konrady: Steve.Konrady@dnr.iowa.gov ; 515-204-1456	https://timesdelphic.com/2021/12/33535/
Lake Champlain Monitoring Program	Water (Cyanobacteria)	Lake Champlain's Cyanobacteria Monitoring Program relies on volunteers who inspect for toxic algal blooms on a weekly basis. Reports are submitted electronically, recorded in a database, and used to create a publicly accessible cyanotracker map. State agencies reference this frequently updated app to determine when it is safe to have the beaches open to the public on a given day. Lake Champlain is heavily reliant on tourism, so having this data be accurate and up to date is vital for the area.	Leader: Lake Champlain Basin Program	https://dec.vermont.gov/watershed/lakes/ponds/monitor/lake-champlain	Vermont	Active	Information, Agency management	Agency of Natural Resources Department of Environmental Conservation Watershed Management Division: 802-828-1115; Pete Stangel: Pete.Stangel@partner.vermont.gov	CSR
Longwood University Water Quality Monitoring Program	Water (Surface Water)	This water monitoring project is operated through the Longwood University Department of Biological and Environmental Sciences, partnered with Clean Virginia Waterways, and utilizes both student and community volunteers. University resources and lab space are used to analyze water samples collected from the Appomattox River and its tributaries for quality indicators and contaminants. Data from this program can be used by the Virginia Department of Environmental Quality and is compiled on the Virginia Department of Environmental Quality's Citizen Monitoring Program database.	Leader: Longwood University-Farmville, Virginia Stakeholders: Virginia Department of Environmental Quality, Clean Virginia Waterways	https://www.longwood.edu/cleanva/appomattoxriver.htm	Virginia	Active	Information	Clean Virginia Waterways, Longwood University: 434-395-2602, cleanva@longwood.edu	
Maryland Stream Waders	Water (Surface Water)	Stream Waders is an adult volunteer stream sampling component of the Maryland Biological Stream Survey (MBSS), Department of Natural Resources professional stream sampling program. The goal of Stream Waders is to fill the information gaps that currently exist on the quality of Maryland's streams. Volunteers sample aquatic invertebrates in the same watersheds across Maryland as those sampled by MBSS biologists, only at a smaller watershed scale, allowing volunteer data to fit seamlessly into results from the MBSS. The DNR provides education and training sessions to volunteers to show how to collect samples and measure stream quality. This data is used by state and local government for a variety of purposes including watershed assessments and drafting Maryland's biennial state water quality report.	Leader: Maryland Department of Natural Resources	https://dnr.maryland.gov/streams/pages/streamwaders.aspx	Maryland	Active	Agency management	streamwaders.dnr@maryland.gov	Two informational Youtube videos: https://youtu.be/jn90d_X2GuA https://www.youtube.com/watch?v=BT8VllyvA
MiCorps (Michigan Clean Water Corps)	Water (Surface Water)	MiCorps uses volunteer-gathered water quality data to educate and inform a large variety of stakeholders. It was created through Michigan Executive Order #2003-15 to assist the Department of Environment, Great Lakes, and Energy (EGLE) in collecting and sharing water quality data for use in water resources management and protection programs. Along with water quality, MiCorps also gathers data on the quality of lake shoreline and the degree to which the lake shoreline remains naturalized or is heavily developed. Both metrics are of value to private citizens and local governments who are invested in the water quality of the lakes and the ecosystems' appearances.	Leader: Michigan Department of Environment, Great Lakes, and Energy	https://micorps.net/	Michigan	Active	Information, Agency management	Jo Latimore (MiCorps Director): 517-432-1491; latimor1@msu.edu	data for downloading: https://data.micorps.net/view/lake/ brochure: https://micorps.net/wp-content/uploads/2019/12/MiCorps-Brochure-high-reader.pdf https://www.michigan.gov/egle/newsroom/press-releases/2022/05/17/egle-awards-23-grants-to-conduct-stream-cleanups-and-monitoring
Oklahoma Kill Response Management Team (OKRMT)	Water (Cyanobacteria)	The Oklahoma Kill Response Management Team (OKRMT) is a collaboration between tribal governments, state agencies, and occasionally federal agencies. Their established hotline receives reports from citizens who report the date, time, location, and size of fish killed, occasionally preserving samples of the collected water and dead fish if requested. Strongly coordinated responses between agencies allows for the delegation of tasks to various stakeholders. These reports are logged and their trends are studied to help determine pollution sources and ways to potentially restore ecosystems.	Leader: Oklahoma Department of Environmental Quality	https://okrmt-deq.hub.arcgis.com/	Oklahoma	Active	Agency management	Christy Callahan: Christy.Callahan@deq.ok.gov	handout: https://www.deq.ok.gov/wp-content/uploads/land-division/Fish-Kill-Government-Handout.pdf
Puerto Rico - Citizen Science Drinking Water Epidemiological Study	Water (Drinking Water)	Research project in which families with fourth or sixth grade students were asked to report to their schools when their children got gastrointestinal diseases. The schools then followed up with additional testing in impacted school districts, with the goal being to study water quality and disease risk-factors in predominantly rural, lower-income communities. This data will help show where these diseases occur, and what community water systems they are a part of. The final report for the study was published in 2017.	Leaders: EPA and local schools	https://cfpub.epa.gov/si/public_record_report.cfm?Lab=NRML&dirEnrId=340734	Puerto Rico	Inactive — final results published in 2017	Information, Agency management	CESER@epa.gov	Final results can be downloaded on website
Southeast Alaska Tribal Ocean Research (SEATOR)	Water	SEATOR's goal is to improve food security for Southeast Alaskan Tribes. The organization monitors the ocean's toxic plankton growth, tests and observes shellfish for dangerous toxins, and monitors ocean chemistry levels, while working with the EPA to raise water quality standards, all with the intent to improve food security and access to traditional foods. The work is led by tribal government; the role of community members is not clear.	Leaders: Southeast Alaskan Tribes	https://www.seator.org/	Alaska	Active	Information, Agency management	429 Katlian Street, Sitka, AK 99835; 907-966-9650; seator@sitkatribes-nsn.gov	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7354620/

<p>Surface Water Ambient Monitoring Program (SWAMP) Clean Water Team</p>	<p>Water (Surface Water)</p>	<p>The Clean Water Team (CWT) is a citizen monitoring program established in California by the State Water Resources Control Board as part of their Surface Water Ambient Monitoring Program (SWAMP). SWAMP monitors the quality of surface water to identify areas of concern, and works with local citizen monitoring and watershed stewardship groups to collect localized data. CWT provides these organizations with technical assistance and guidance documents, training, QA/QC support, temporary loans of equipment and communication. Data collected by this group has been used by state agencies, such as the California Water Quality Monitoring Collaboration Network, for projects such as establishing acceptable surface water nutrient objectives</p>	<p>Leader: California Water Resources Control Board Stakeholders: California Environmental Protection Agency, California Water Quality Monitoring Council</p>	<p>https://www.waterboards.ca.gov/water_issues/programs/swamp/cwt_volunteer.html</p>	<p>California</p>	<p>Active</p>	<p>Information, Agency management</p>	<p>Ali Dunn - SWAMP Program Chief: (916) 319-8458 Ali.Dunn@waterboards.ca.gov</p>	<p>Data visualization on website: https://www.waterboards.ca.gov/water_issues/programs/swamp/cwt_volunteer.html</p>
<p>SW Wisconsin Groundwater & Geology Study (SWIGG)</p>	<p>Water (Drinking Water)</p>	<p>Voluntary participants analyzed over 350 wells across three counties in Southwest Wisconsin in 2019 to better understand the quality of groundwater and contamination levels of private wells. This two-phased study relied heavily on voluntary participants. Phase one measured the degree of contamination in different wells, while phase two began the process attempted to find the pollution sources. Researchers then looked into potential relationships between the land-use data and well construction history by mapping contamination levels across wells. The one-time survey was completed and the results have been published, which brought an end to the project.</p>	<p>Leader: Wisconsin Geologic and Natural History Survey - part of the University, but also local counties in the area</p>	<p>https://iowa.extension.wisc.edu/natural-resources/swigg/</p>	<p>Wisconsin</p>	<p>Inactive</p>	<p>Information</p>	<p>Ken Bradbury: ken.bradbury@wisc.edu</p>	<p>https://www.wpr.org/southwestern-wisconsin-officials-contemplate-next-steps-after-study-shows-widespread-contamination#:~:text=The%20Southwest%20Wisconsin%20Groundwater%20and,could%20affect%20local%20contamination%20levels.</p>
<p>Wetlands Health Evaluation Program (WHEP)</p>	<p>Water (Wetlands)</p>	<p>A collaboration between county government agencies in Dakota including the Dakota County Environmental Resources Department, with support from The Minnesota Pollution Control Agency and other cities in Minnesota, this program organizes volunteer groups and provides them with tools and training on how to monitor wetland health in their communities. The resulting information is used by city governments, watershed commissions and others. The volunteer teams annually perform two evaluations, carrying out actions such as vegetation surveys and sampling for macroinvertebrates. These evaluations provide critical information to city and county planners, engineers, and various resource managers regarding the current health of their local wetland ecosystems and compliance with EPA regulations. The data is also utilized by the Minnesota Pollution Control Agency to monitor wetland health throughout the region and identify areas to target for potential remediation.</p>	<p>Leader: Dakota County, Minnesota Stakeholders: Minnesota Pollution Control Agency, Sponsor cities who have joined project</p>	<p>http://www.mnwhep.org/</p>	<p>Minnesota</p>	<p>Active</p>	<p>Information, agency management</p>	<p>Paula Liepold, 952-891-7117</p>	<p>https://patch.com/minnesota/eagan/dakota-county-government-volunteer-explore-dakota-county-wetlands-0; CSR</p>
<p>White Earth Nation Thriving Earth Exchange Project</p>	<p>Water (Surface Water), Environmental Justice</p>	<p>The White Earth Reservation, which is in northern Minnesota, monitors the water quality of its many lakes. White Earth performs a broad suite of measurements and tests related to and designed to ensure safe rice harvesting, fisheries and recreational use. This data can also be used to measure the effect of agriculture operations (including fertilizer run-off), power plants, and septic systems. Due to some of the lakes' accessibility, many of the collection methods can be done with remote-sensing data.</p>	<p>Leader: White Earth Nation</p>	<p>https://thrivingearthexchange.org/tex2013-102/</p>	<p>Minnesota</p>	<p>Active</p>	<p>Information</p>	<p>ThrivingEarthExchange@agu.org; Advisory Board: https://thrivingearthexchange.org/team/</p>	