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The Water Data Collaborative: Empowering community water science

Adam Griggs, Science Manager, River Network Representing the Water Data Collaborative





SUPPORTING COMMUNITY WATER SCIENCE















Water Data Collaborative

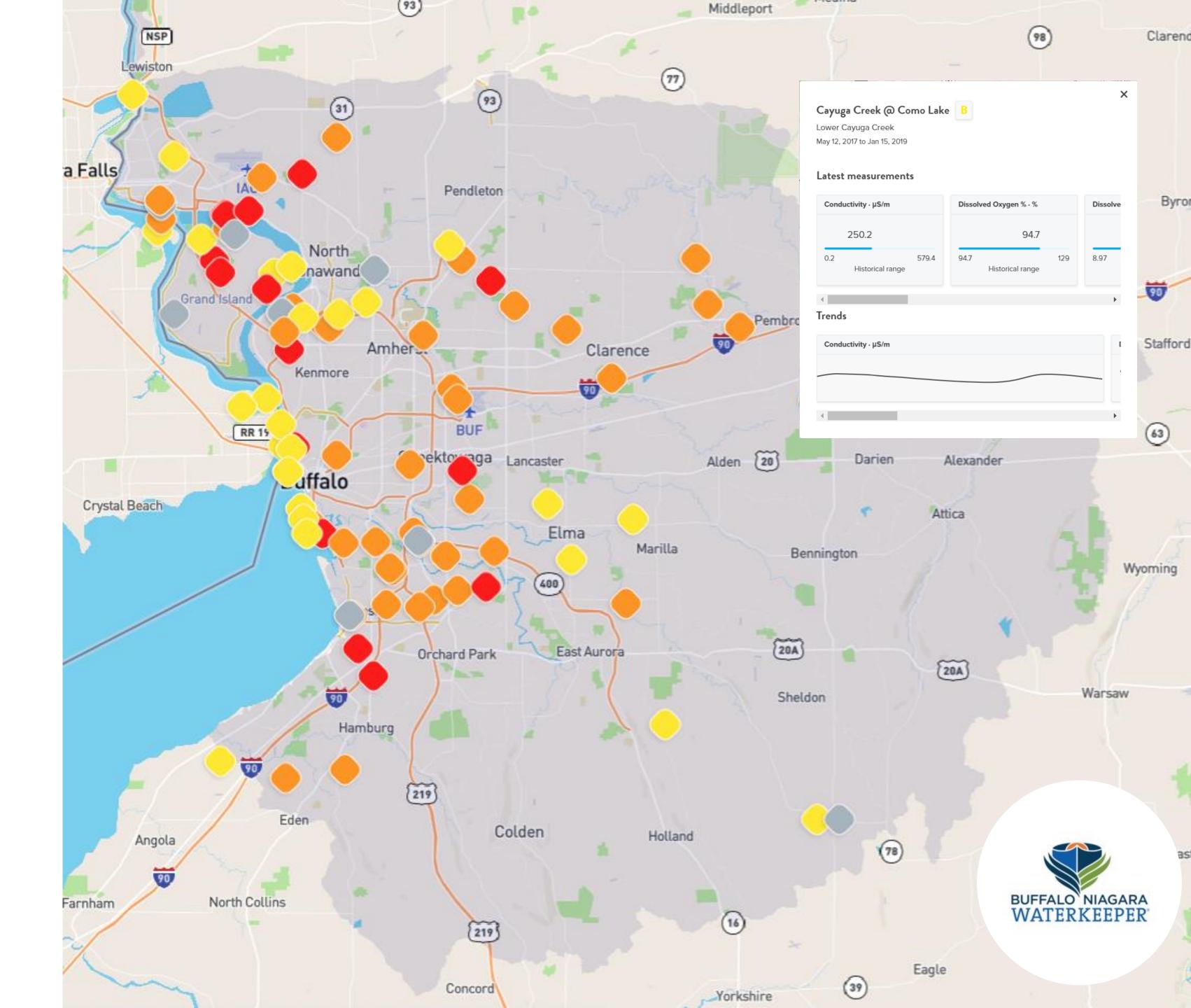








What is our vision for <u>Community</u> Water Science?

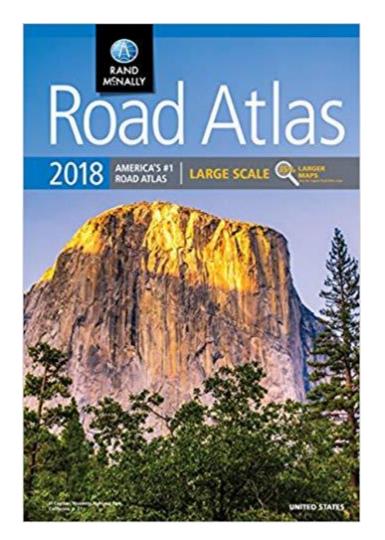




The Internet of Water and the Water Data Collaborative

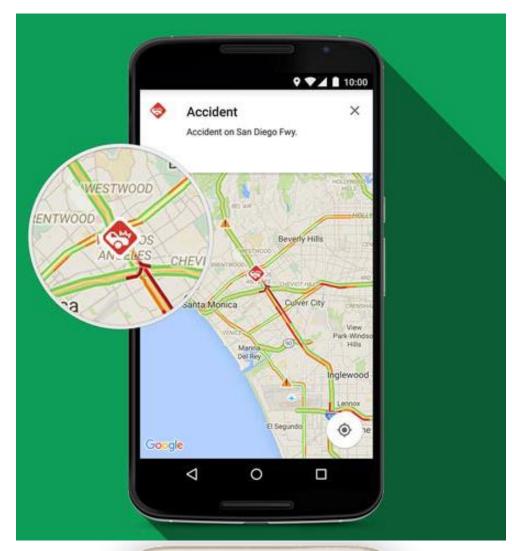


Technology and Big Data



Data Standards Data Sharing Accessibility

Cloud-based Storage Data to Information Applications







MOST WATER DATA ISN'T CONNECTED AND ACCESSIBLE

Technology and Big Water Data







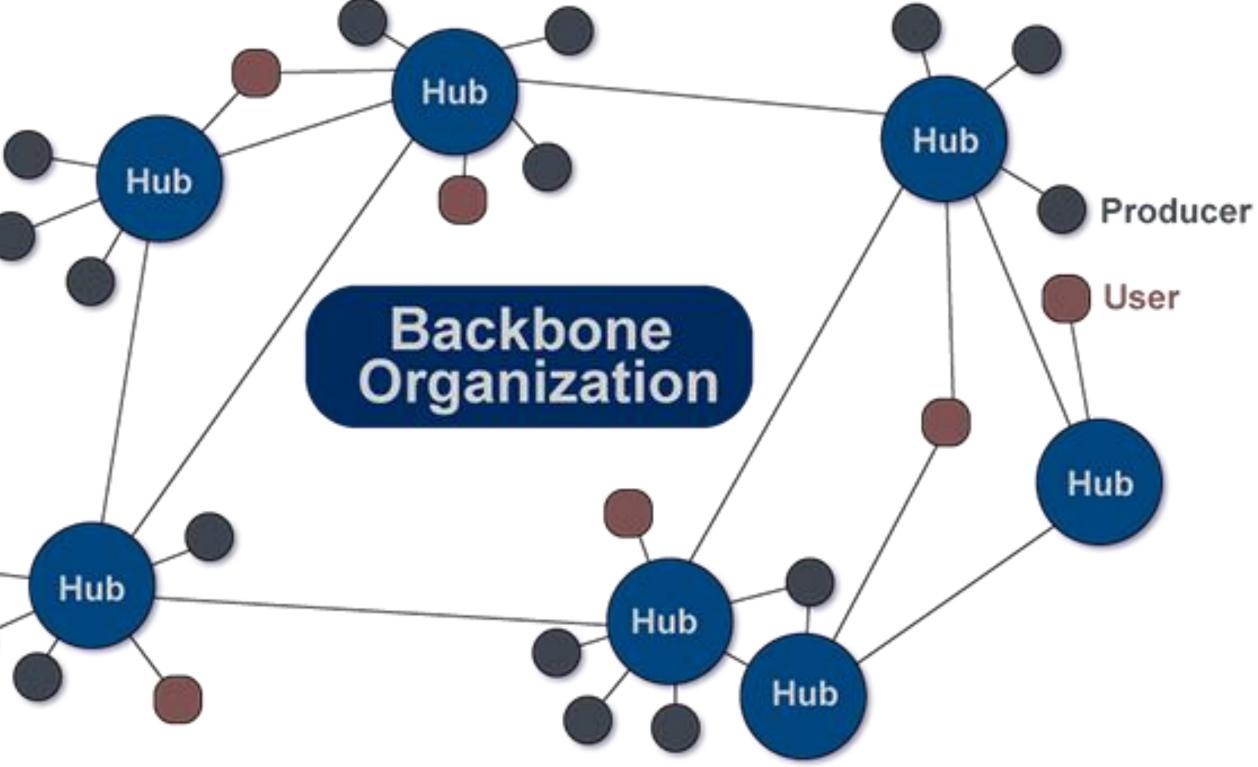






Internet of Water

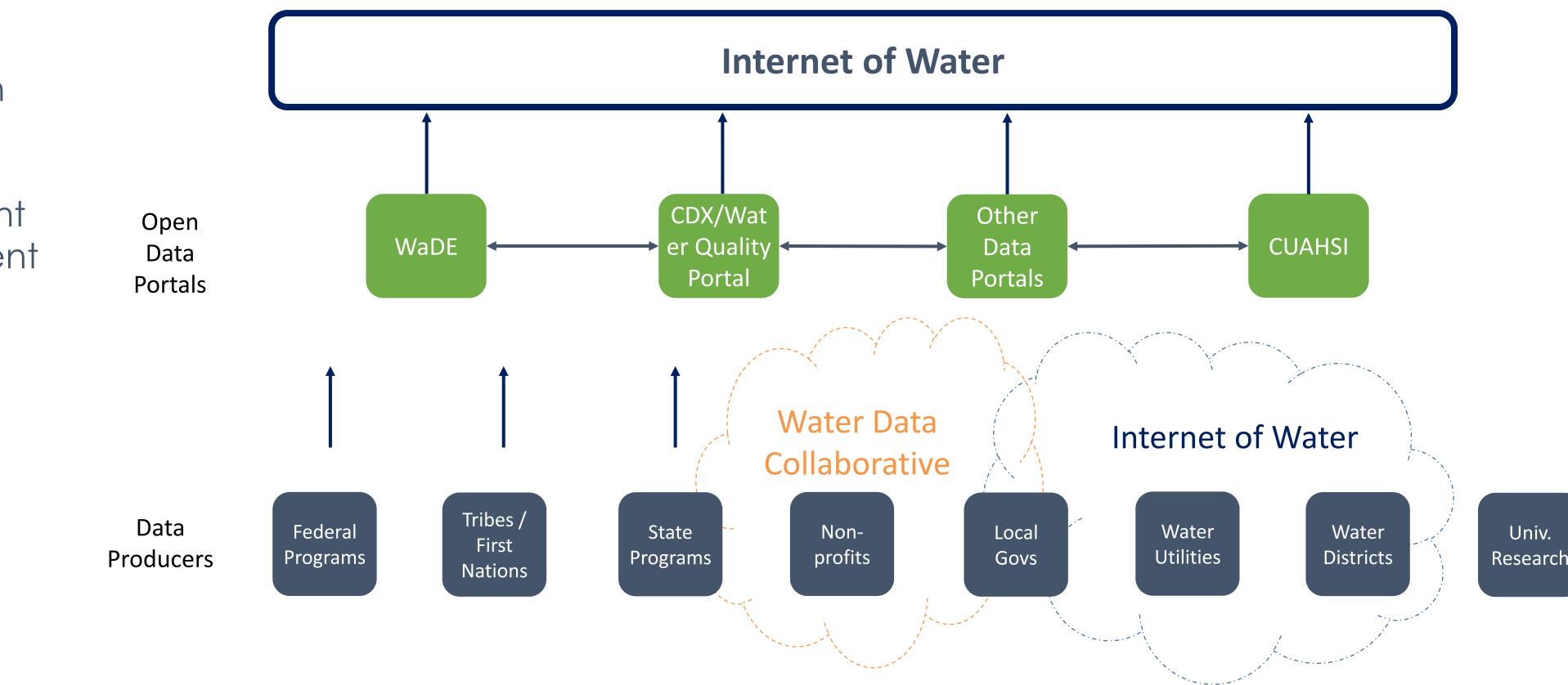
Connecting Water Data to Enhance Decision-Making/







How the Water Data Collaborative and loW are working together



- 1.Participate on each other's advisory boards
- 2.Shared development of data management resources / data catalogues
- 3.Coordinate on community water science value demonstration projects







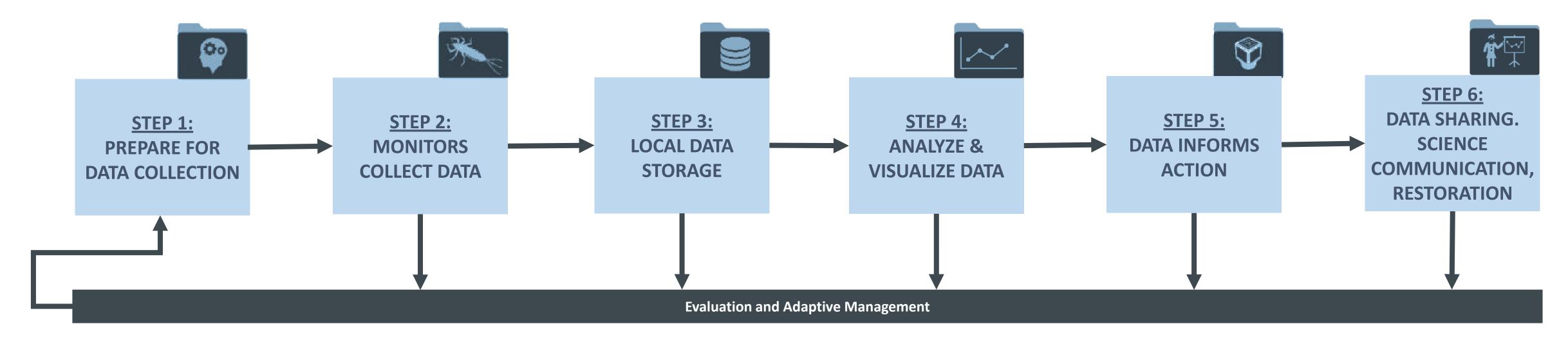
Water Data Collaborative Goals, strategies, and work-todate





1) Document existing resources and technologies

OPEN DA PORTAL



Community Water Science Framework

		ONLINE SCIEN	ICE WEB S	ERVICES		
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	TRENDS	MODEL RES	SULTS	INTERNET	OF WATER	

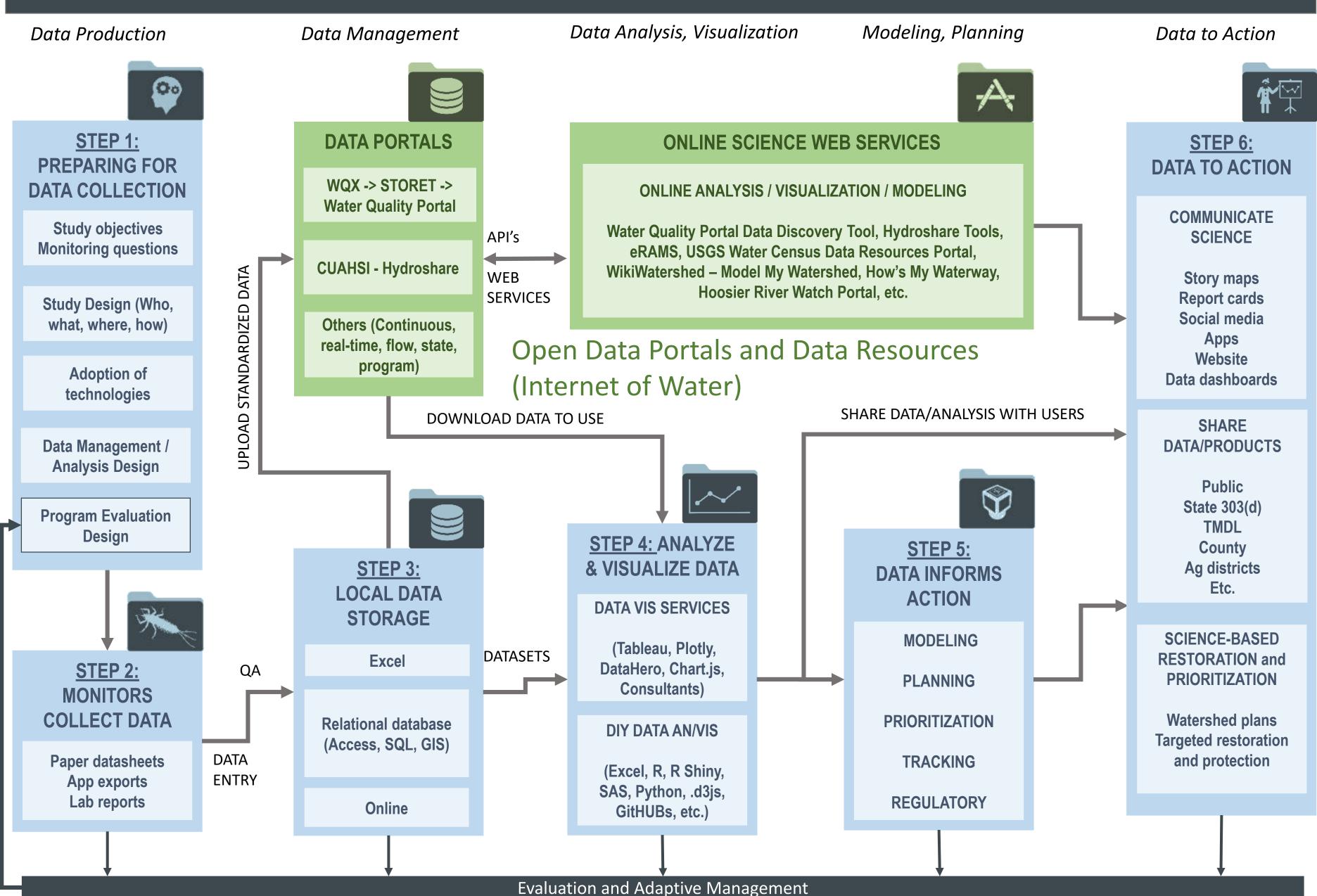
Open Data Portals and Data Resources





Organize and guide access to existing resources

Demonstrate the 2) role of open data resources



A Citizen Water Science Framework: Powered with Open Data and Technologies



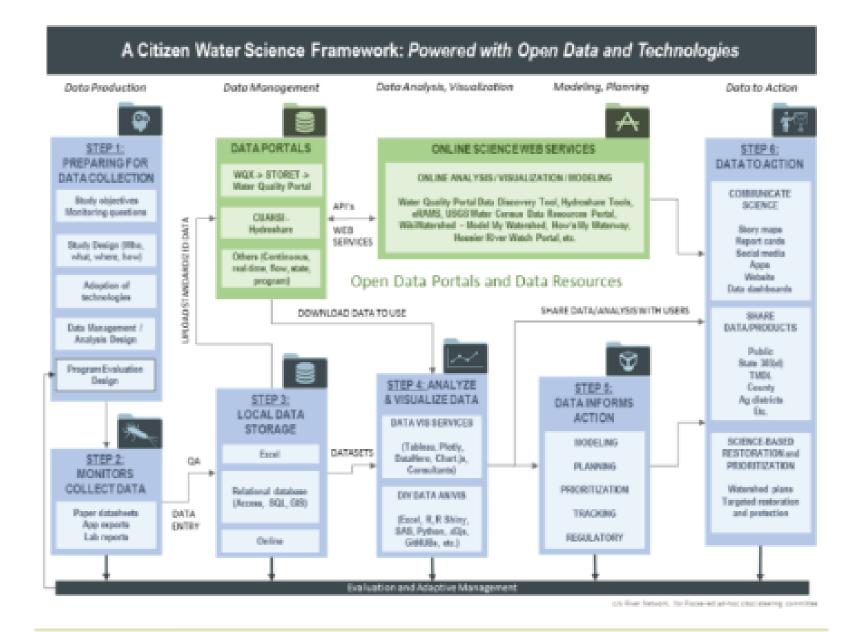


Catalogue Water Science Resources

Our Work

- Ample Water
- Strong Champions
- Clean Water
- How We Help
- Catalyzing Policy Change
- > Providing Science Support
- Science and Technical **Resources Portal**
- > Data Visualization
- > Monitoring and Data Production
- Accessing and Sharing Data Online
- > River Science Connection
- > Networking & Learning
- > Best Practices
- Impact Stories

Science and Technical Resources Portal



Monitoring and Data Production

 Find resources and information on monitoring study design, quality assurance, methods and equipment for monitoring, and discover new technologies changing how data is being collected.

Data Management and Storage – Coming Soon!

- Find guidance for developing data management plans.
- > Learn about different database options and research options that fit your data management needs.

Accessing and Sharing Data Online



 Discover and learn how to use data resource portals from federal, state, university, and NGO partners.

DONATE

CONTACT US

SEE THE MAP





HOME ABOUT STEERING COMMITTEE RESOURCES NEWS CONTACT

Resources

The Water Data Collaborative is in the process of streamlining our combined resources, as well as creating new and helpful tools to guide users through the entire process of water monitoring, from study design guidance, to data management, to further visualization and analysis. The links below are some of the best currently existing resources that we are working with to integrate into our larger framework vision.



Clean Water Hub

The Clean Water Hub is a collaborative tool to help people just like you track water quality in local creeks and streams. It's a place to share your local data result so that we can make an impact. The Clean Water Hub enables you to play an active role in the act of conserving, monitoring, and restoring the



Water Reporter

Water Reporter is a social network optimized to support watershed initiatives. Users create and share observations with geo-referenced photos and comments. You can explore daily contributions from others in the community, and share data from the field to support a growing



Best Practices

Synthesized best practices from newly available resources for monitoring and watershed science. Catalogued method manuals, web portals software online trainings, apps and more!

Click here for more



NEMI

that allows scientists and managers to find and compare analytical and field methods for all phases of

Click here for more

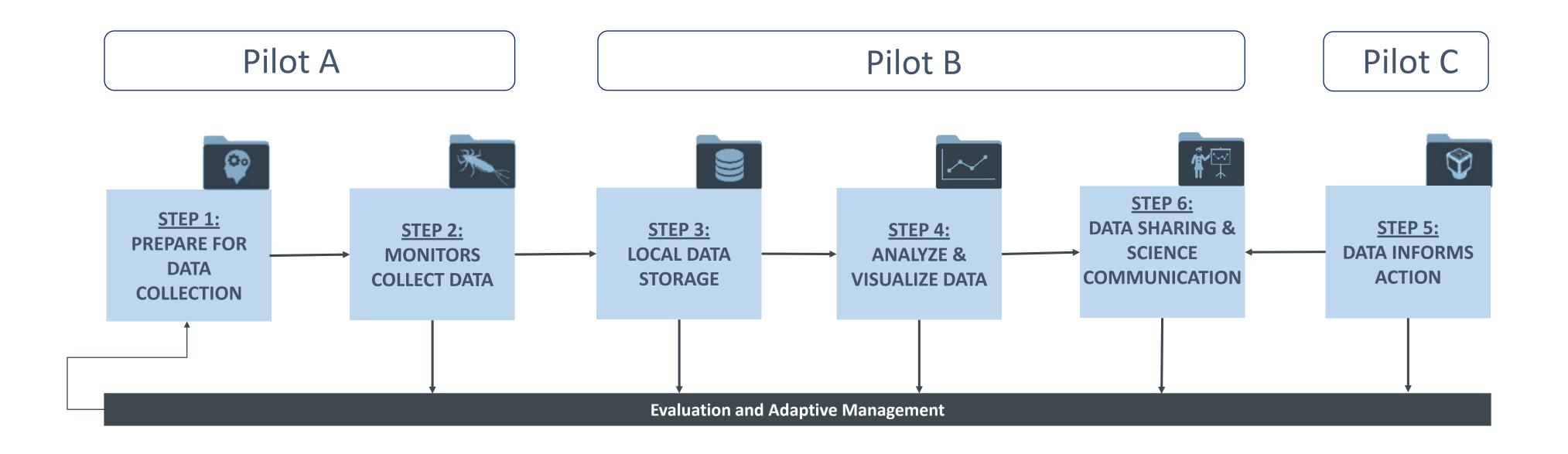






Addressing gaps and barriers to adoption 1)

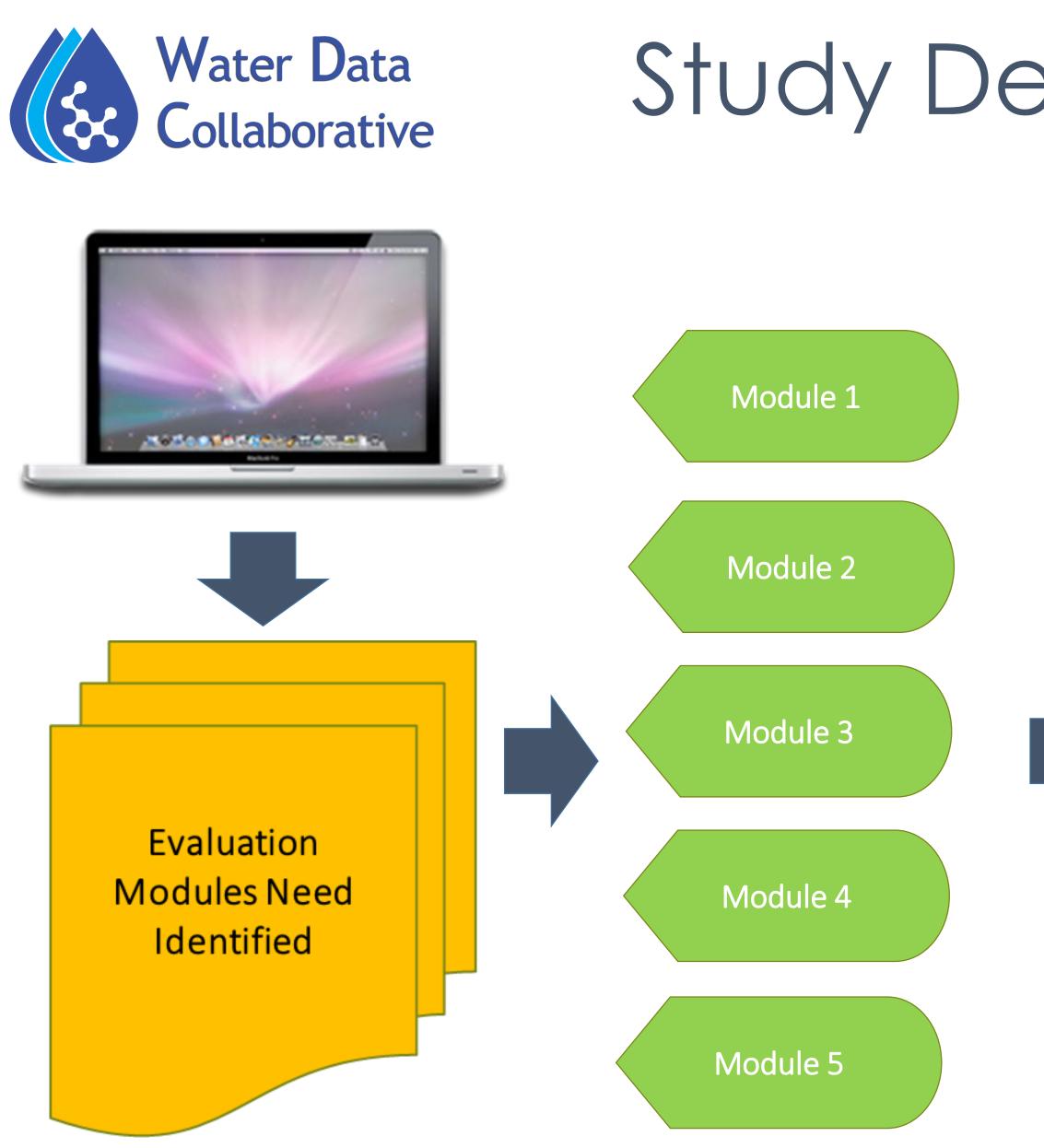
Standardization Collaboration Capacity-building



Building New Tools

Water Reporter Access Database Clean Water Hub

Data-driven watershed applications



Study Design Guidance Modules

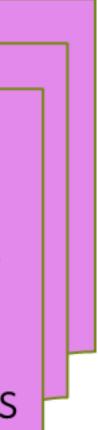
Possible Products

- Monitoring 1. Plan
- 2. QAPP
- 3. Data Management Plan
- Data Delivery 4. Plan
- **Evaluation Plan** 5.
- Published Data 6. to NWP other info products



Accessible Repository like NEMI for products







Under development by the North Carolina Aquatic Data Hub

Pilot distributed database system soon to be released to NC groups

For more technical users wanting something they can modify if needed

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	TAB_SITE_TYPE
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	TAB_TAXONOMIC_QUANTIFICATION
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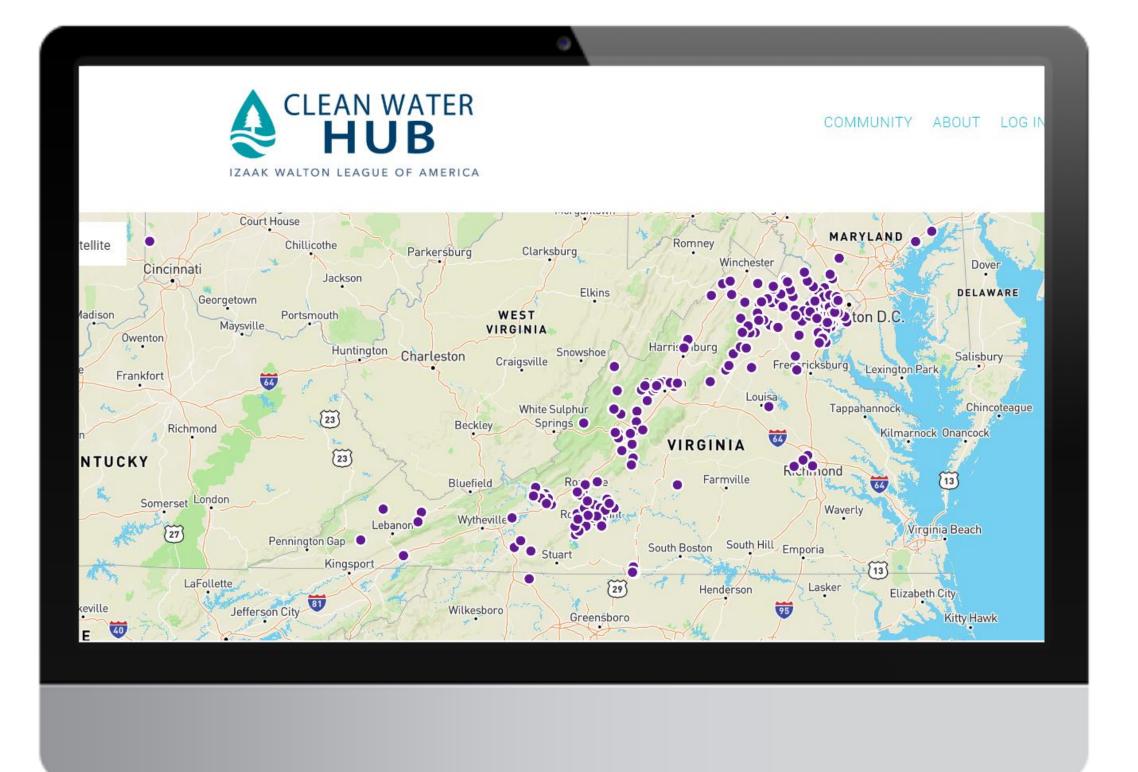






Distributed Access Database

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visual survey habitat assessment v Weather 7ctrl-tab-> Aquatic Life Observed			





The Clean Water Hub

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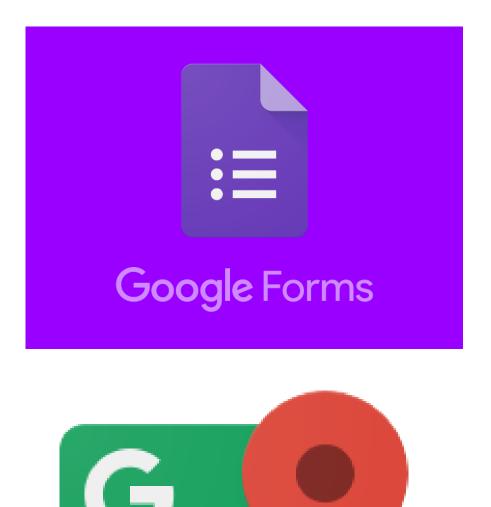






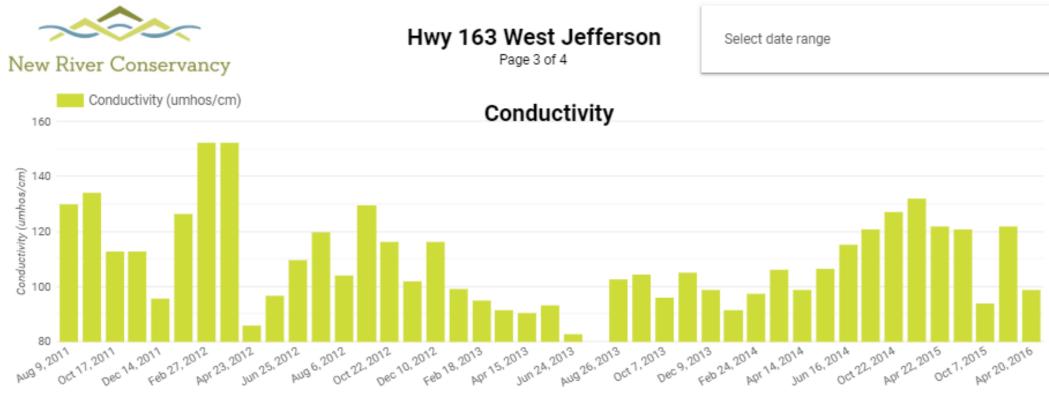


Provide case-study examples in use of free applications



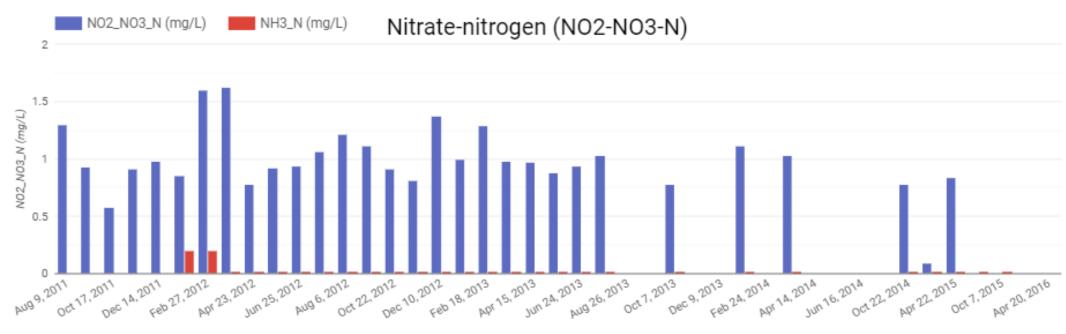


Analysis, Visualization, Communication



Conductivity is a measure of water's capability to pass electrical flow. It is indicative of the dissolved salts and inorganic materials such as alkalis, chlorides, sulfides and carbonate compounds 3.

Nitrogen is essential for all living things as it is a component of protein. Nitrogen exists in the environment in many forms and changes forms as it moves through the nitrogen cycle. However, excessive concentrations of nitrate-nitrogen or nitrite-nitrogen in drinking water can be hazardous to health, especially for infants and pregnant women. EPA drinking water limit for Nitrate-nitrogen (NO3-N) of 10 mg/L

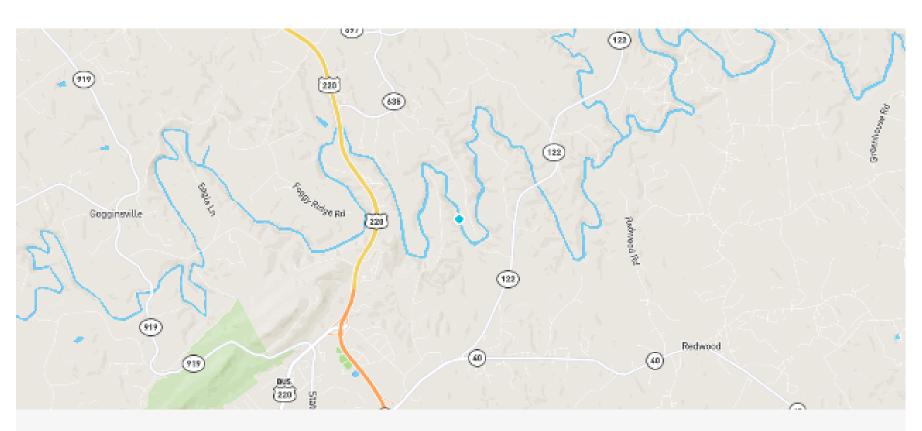






COMMUNITY ABOUT LOG IN SIGN UP HELP

BLACKWATER RIVER



BLACKWATER-RIVERBEND LOCATED AT 1634 RIVERBEND DRIVE, ROCKY MOUNT

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 Sep 2, 2017
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Analysis, Visualization, Communication

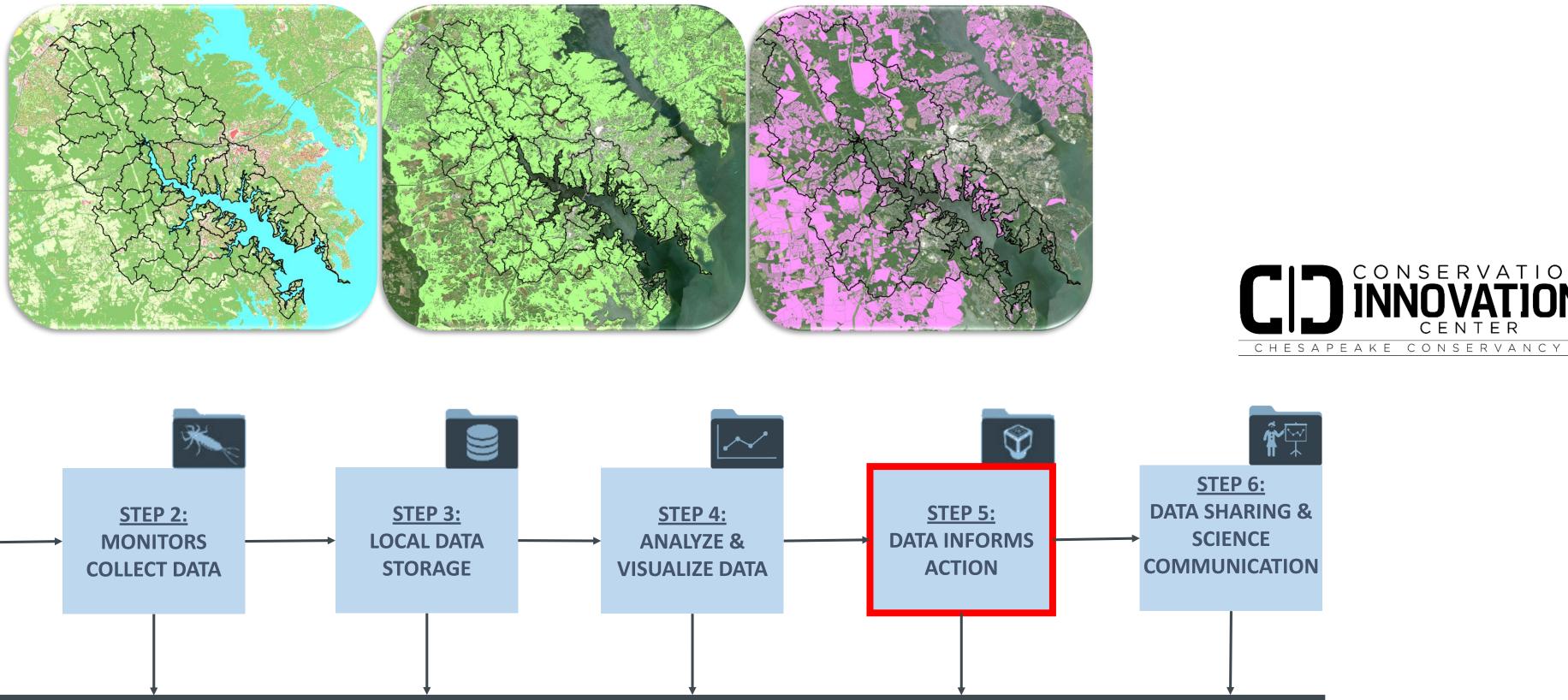
The Clean Water Hub

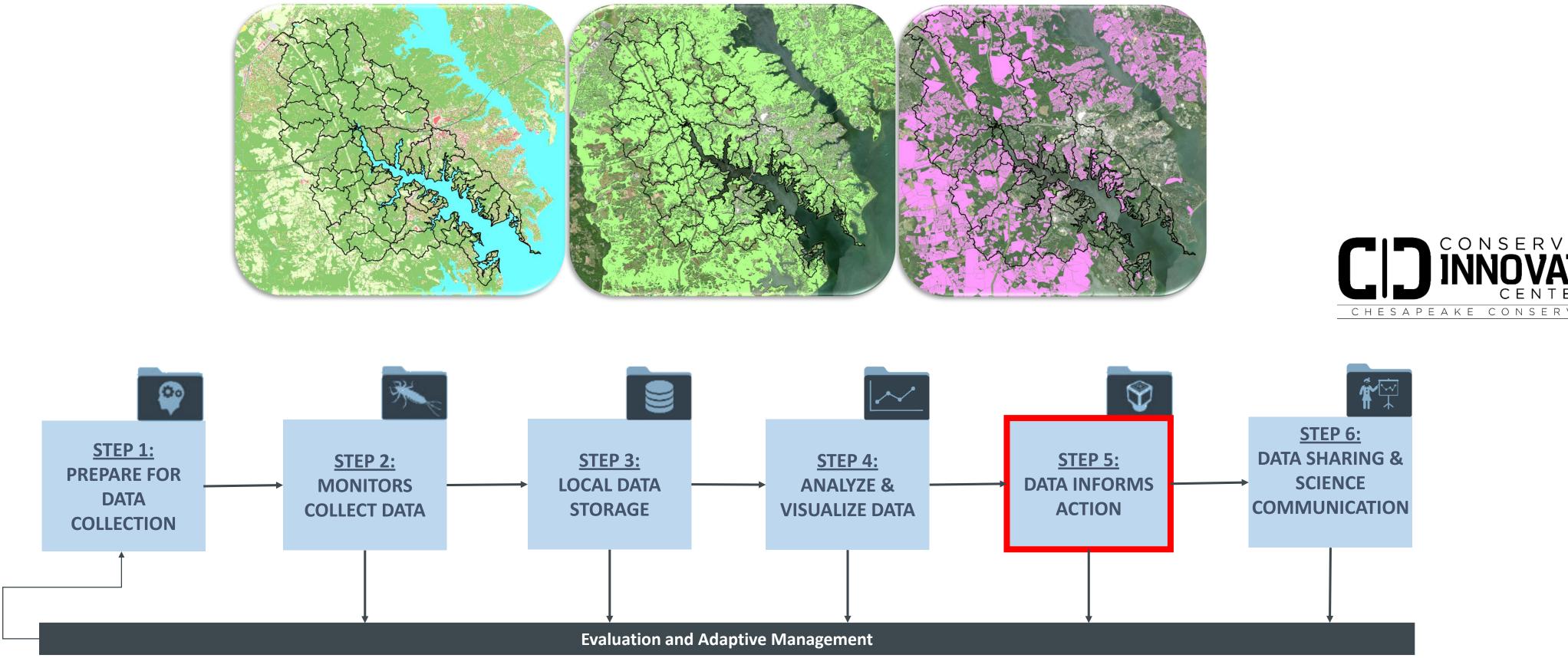
Display time-series trend plots of individual stations and parameters



Data Informs Action

Demonstrate the power of data-driven river restoration









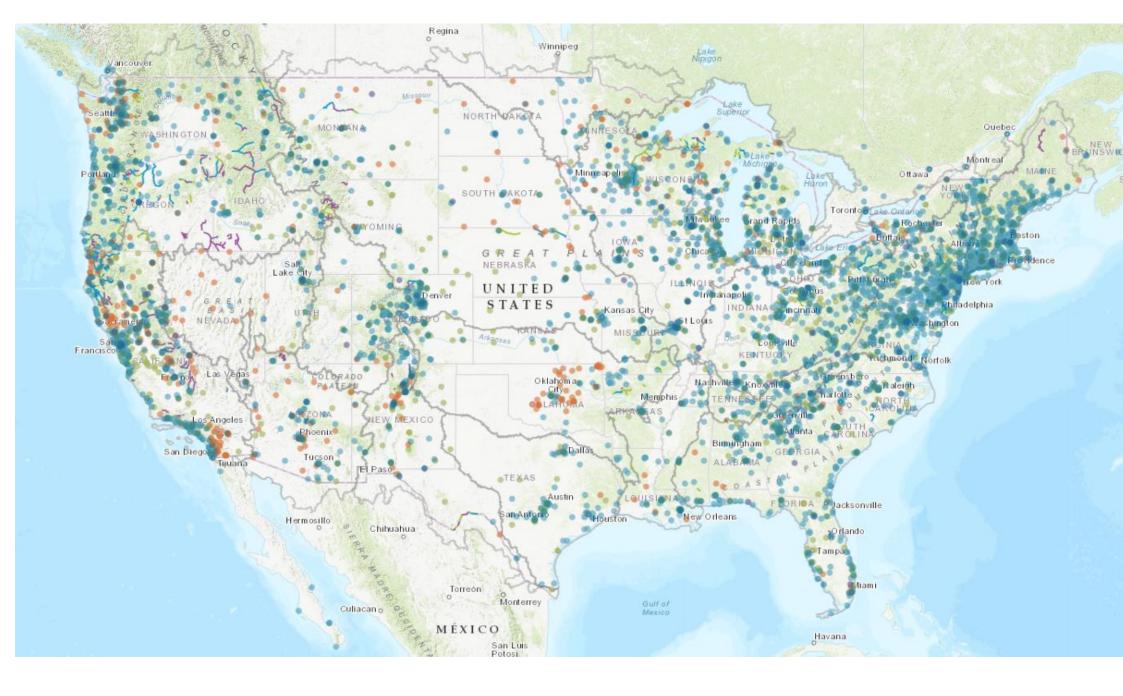
Supporting a Network of Community Water Scientists

Connect to and document community water science support where it currently exists

- Track regions/programs to show where NGO data is or isn't connected and available
- Work with existing on-the-ground efforts to support greater access to and use of NGO data
- Foster network development to fill gaps

Initial survey of EPA regions/states:

• 31 (n=41) States have reported having some type of sponsored citizen science program











Support Improvements to Data Infrastructures



