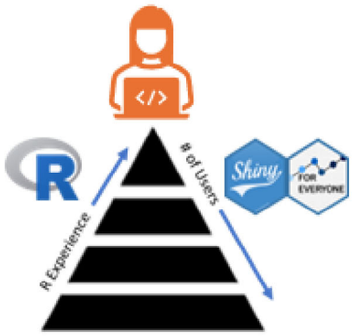
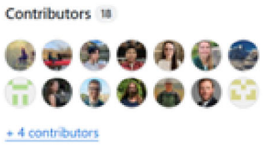
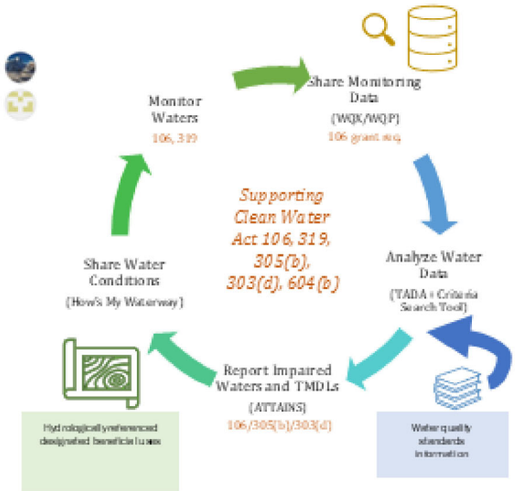
1. What Is TADA?

A suite of open-source R tools (**R package and R Shiny applications**) designed to efficiently discover, compile, clean, analyze, and visualize data from the **Water Quality Portal (WQP)**. Moreover, this project provides a **hub for an open-source water quality community** to collaborate.





epa.gov/waterdata/TADA



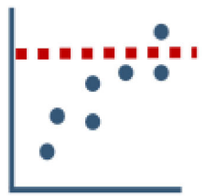
2. How Does TADA work?

Module 1: Discover, wrangle and quality control data

- Retrieve data, correct data types, remove duplicates and filter
- Flag suspect metadata, results, and locations
- Handle censored (e.g., non-detect) data
- Harmonize synonyms, units, and speciation
- Group nearby sites and review sampling depths
- Total nitrogen and phosphorus summation

Module 2: Overlay ATTAINS assessment units, uses, and parameters with WQP monitoring locations (*in active development*)

Module 3: Analyze water quality with user supplied criteria and methodologies (*in active development*)



- Criteria components
  - Frequency
  - Duration
  - Magnitude
- Additional complexities
  - Seasonality
  - Site-specific
  - Acute vs. chronic exposure
  - Spatial and temporal aggregation
  - Sampling depth
  - And more!

3. Why Is TADA Useful?

✓ Flexible design of TADA functions allows users to easily customize their existing workflows

✓ Lowers technical barriers to access and integrate disparate dataset together to support water analyses and research

✓ Centralized, interoperable and reusable data tools reduce government costs

✓ Supports users with variable R experience

✓ Discovering commonalities in assessment processes across the nation

✓ Sharing analysis processes, methods, R code, and knowledge

✓ User driven design

✓ Publicly available repository on GitHub is actively maintained and new functionality is being developed

✓ Visualizing data in interactive figures, maps, and tables