turning knowledge into practice

Water Quality Portal Data Discovery Tool - Adventures in Data Discovery!

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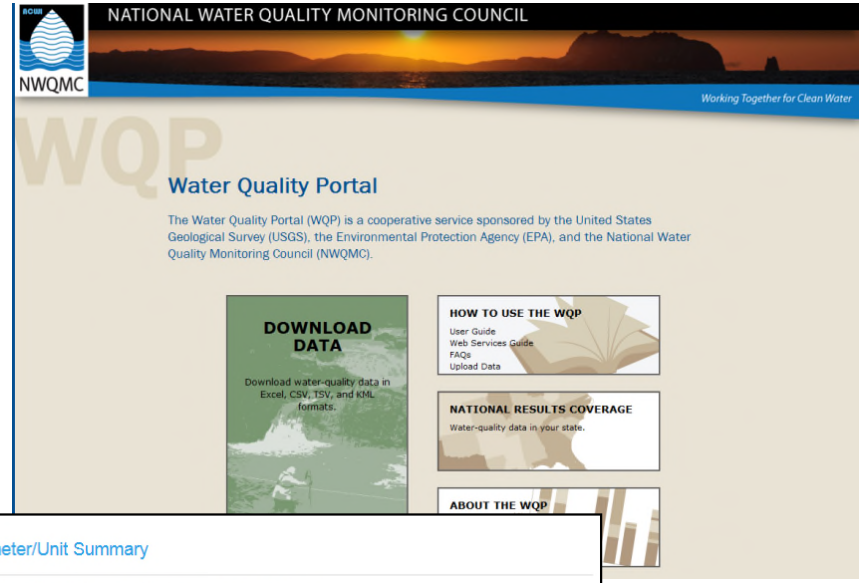
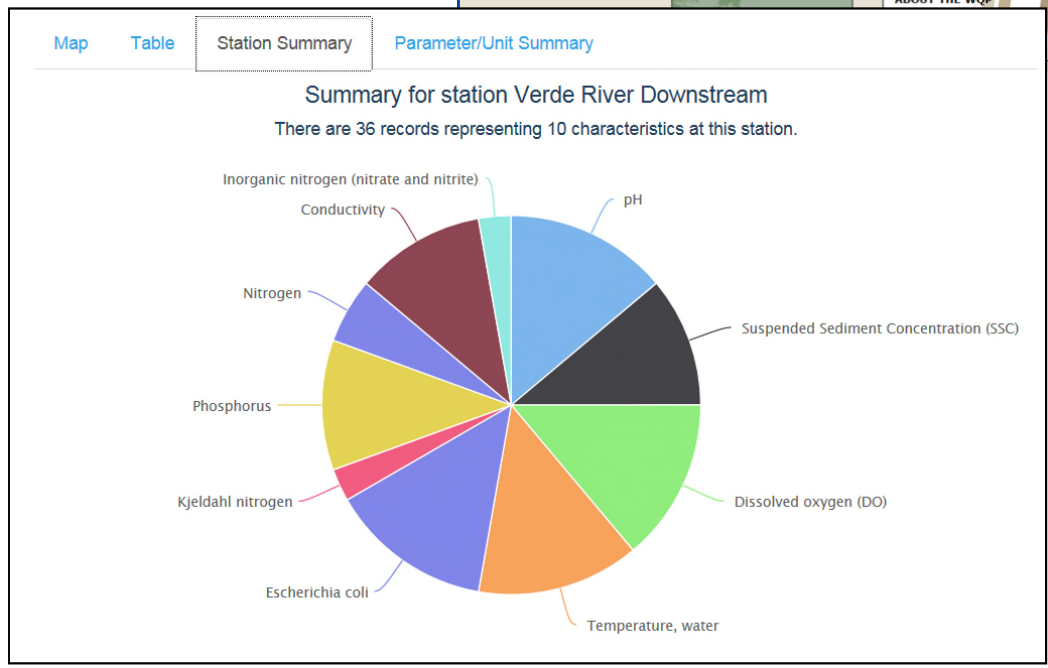
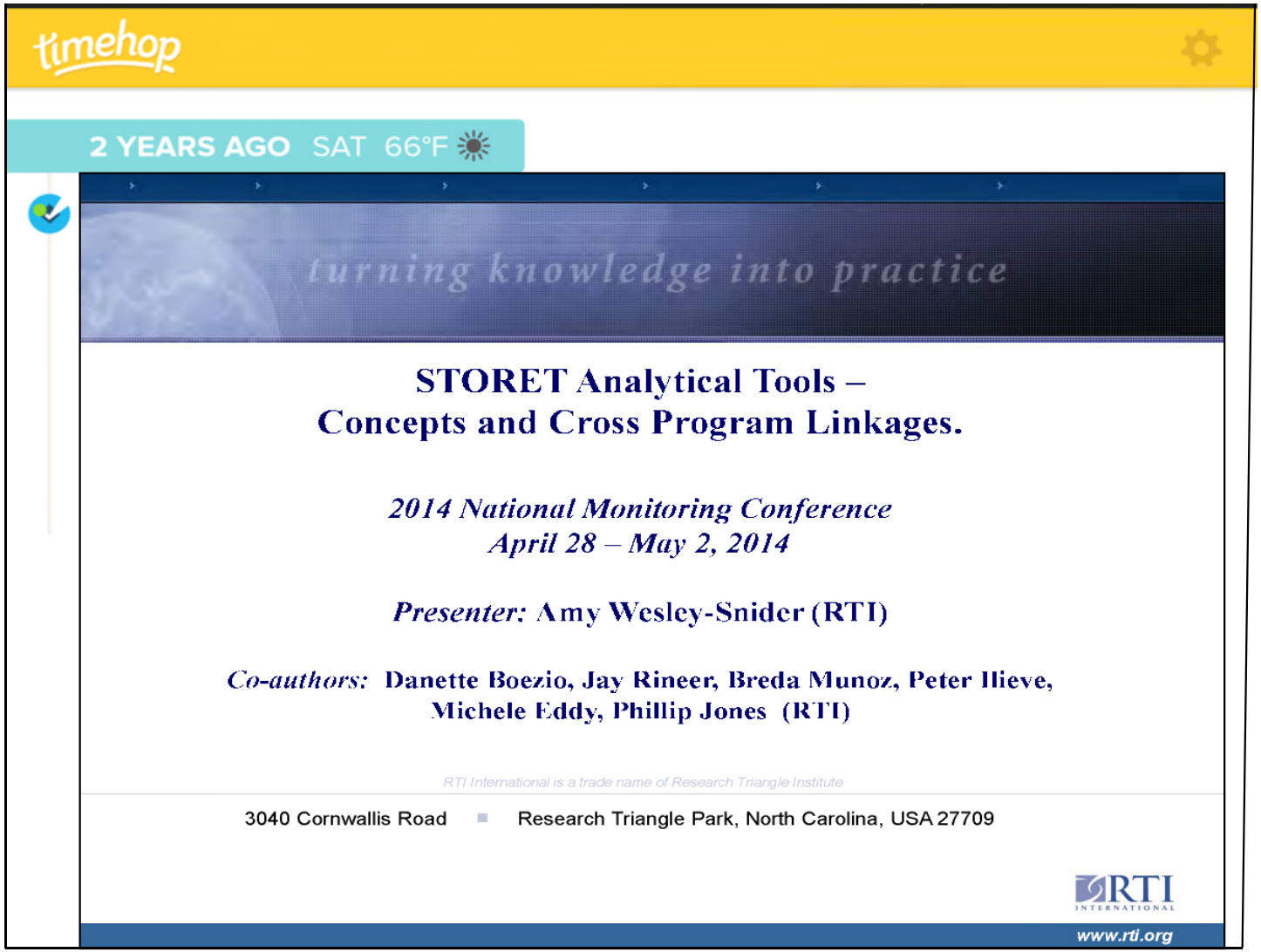
Presentation Outline

- Background
- WQP Data Discovery tool
- Future Adventures!
  - WQP Data Analysis Tool
- Conclusions



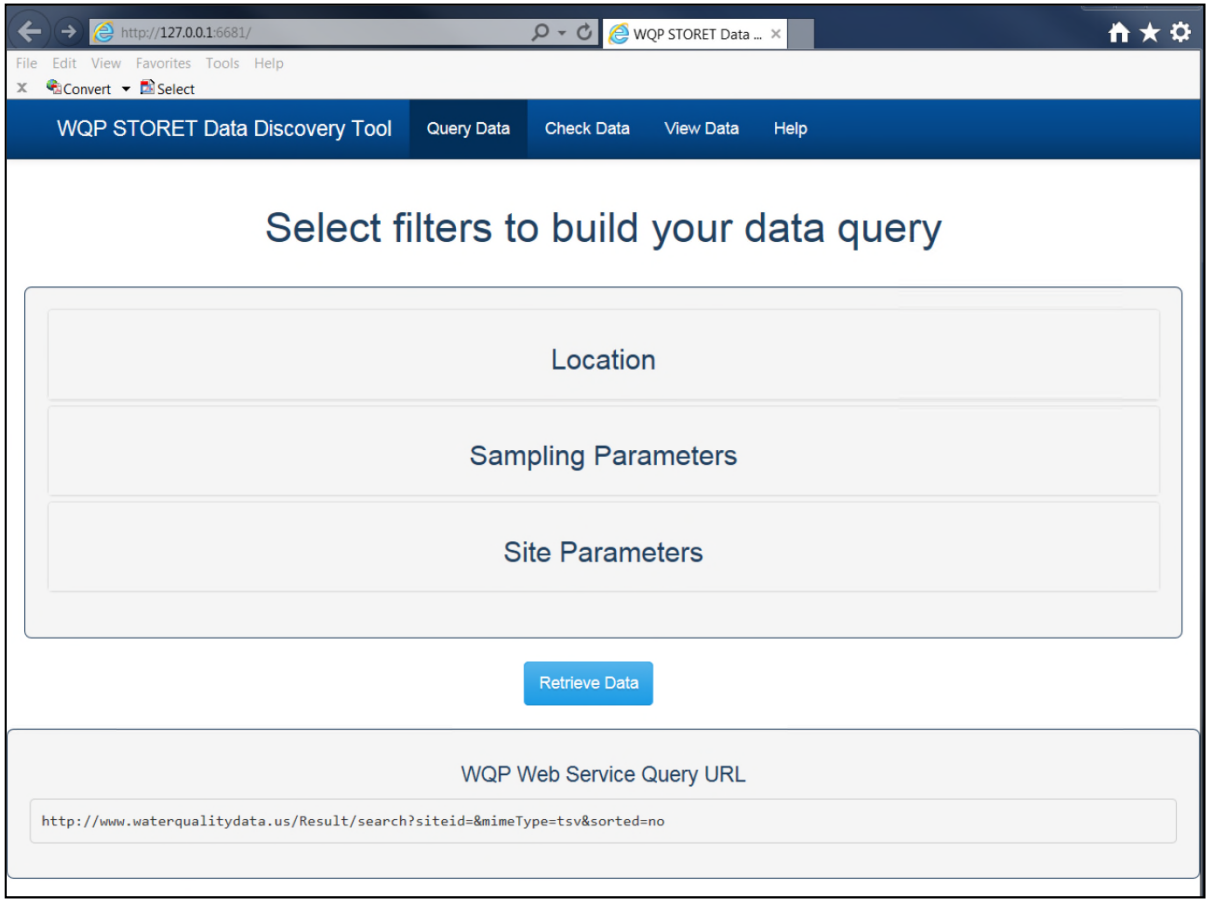


Background: Two years ago the adventure began…

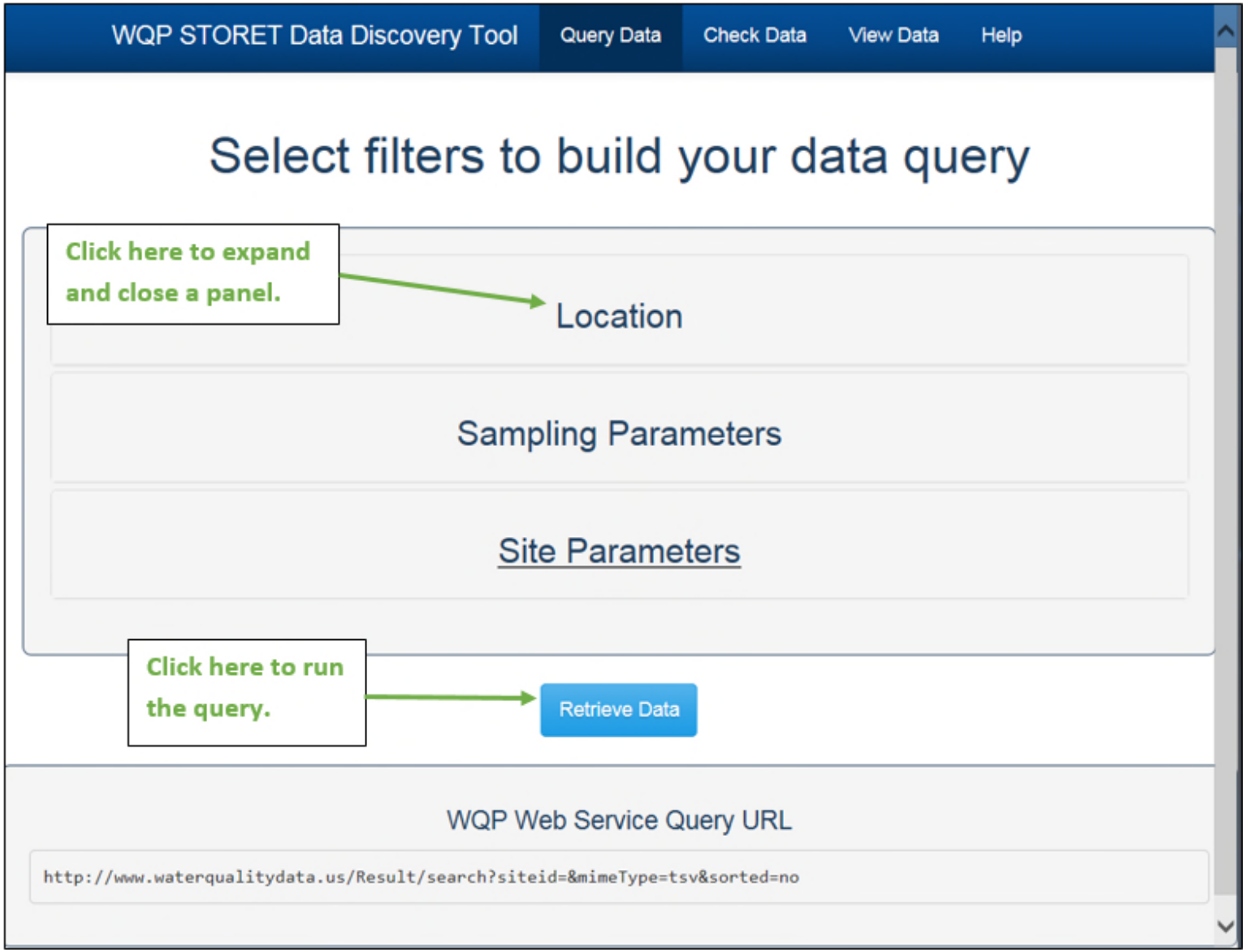


WQP Data Discovery Tool

- Desktop Application
  - Opens in browser (IE, Chrome, Firefox)
- Query, Summarize, QC, Display data from the WQP
  - Assists users in selecting data for analysis
- R – Open source statistical programing language.



WQP Data Discovery Tool – Query Data



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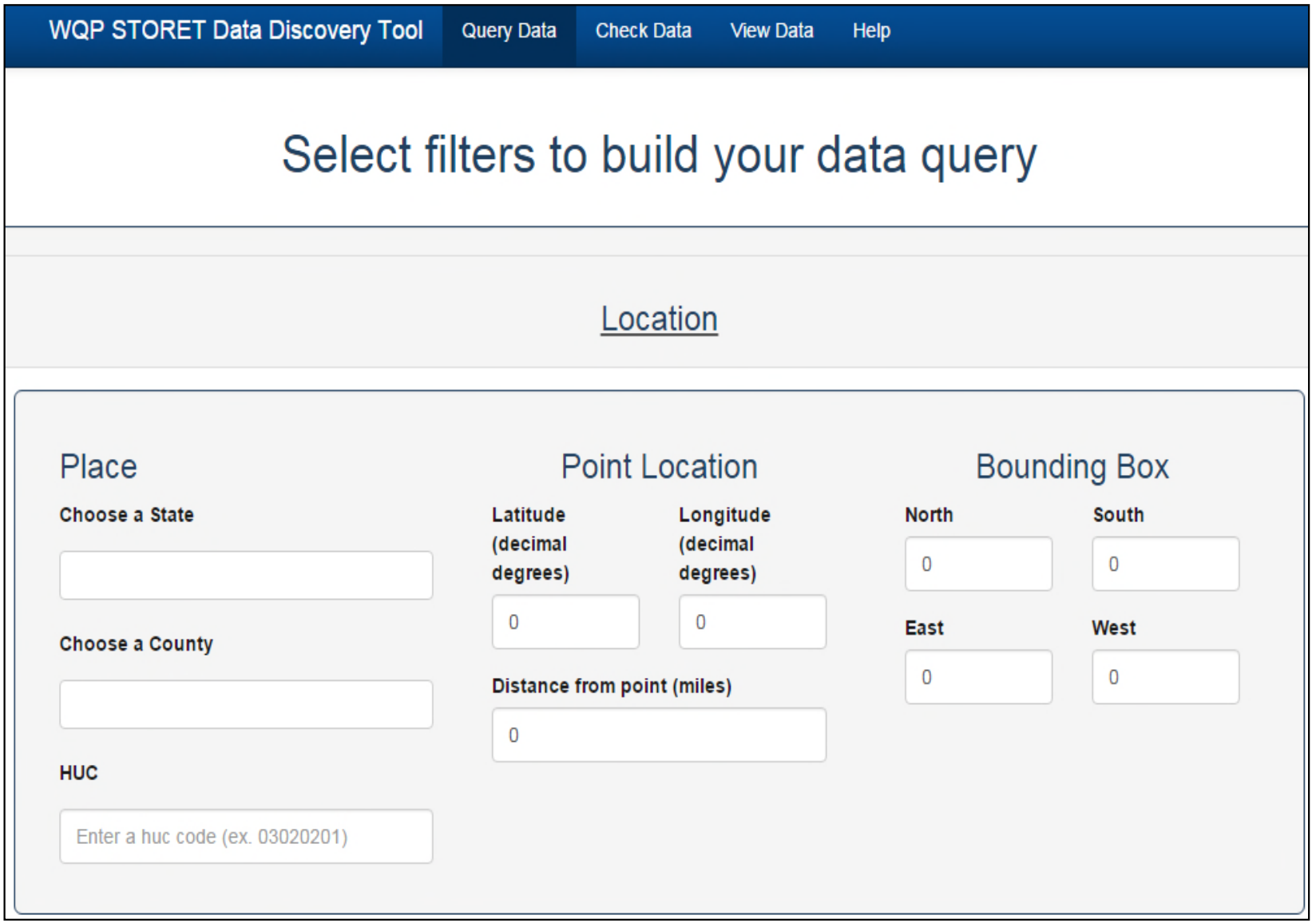

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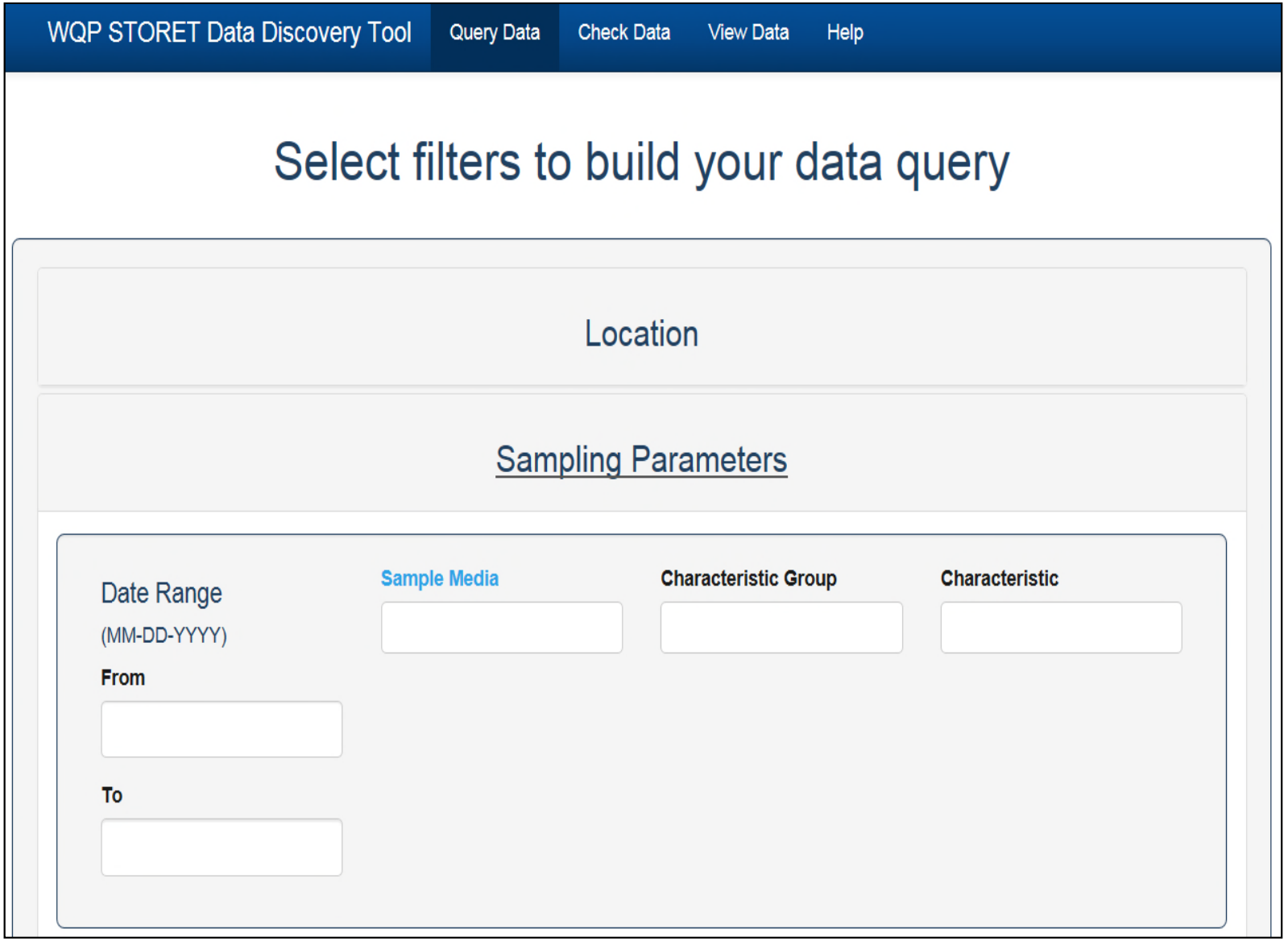

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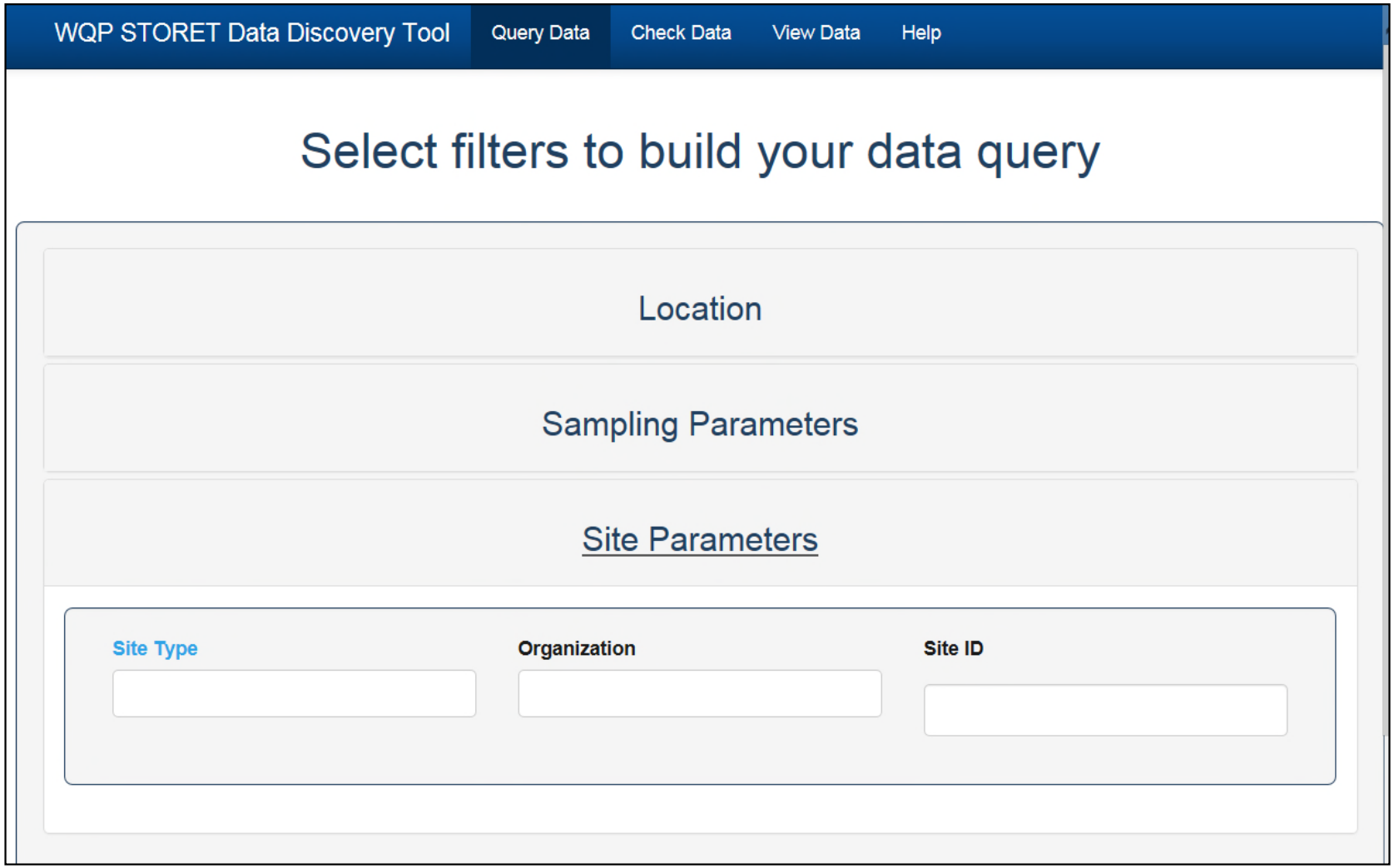
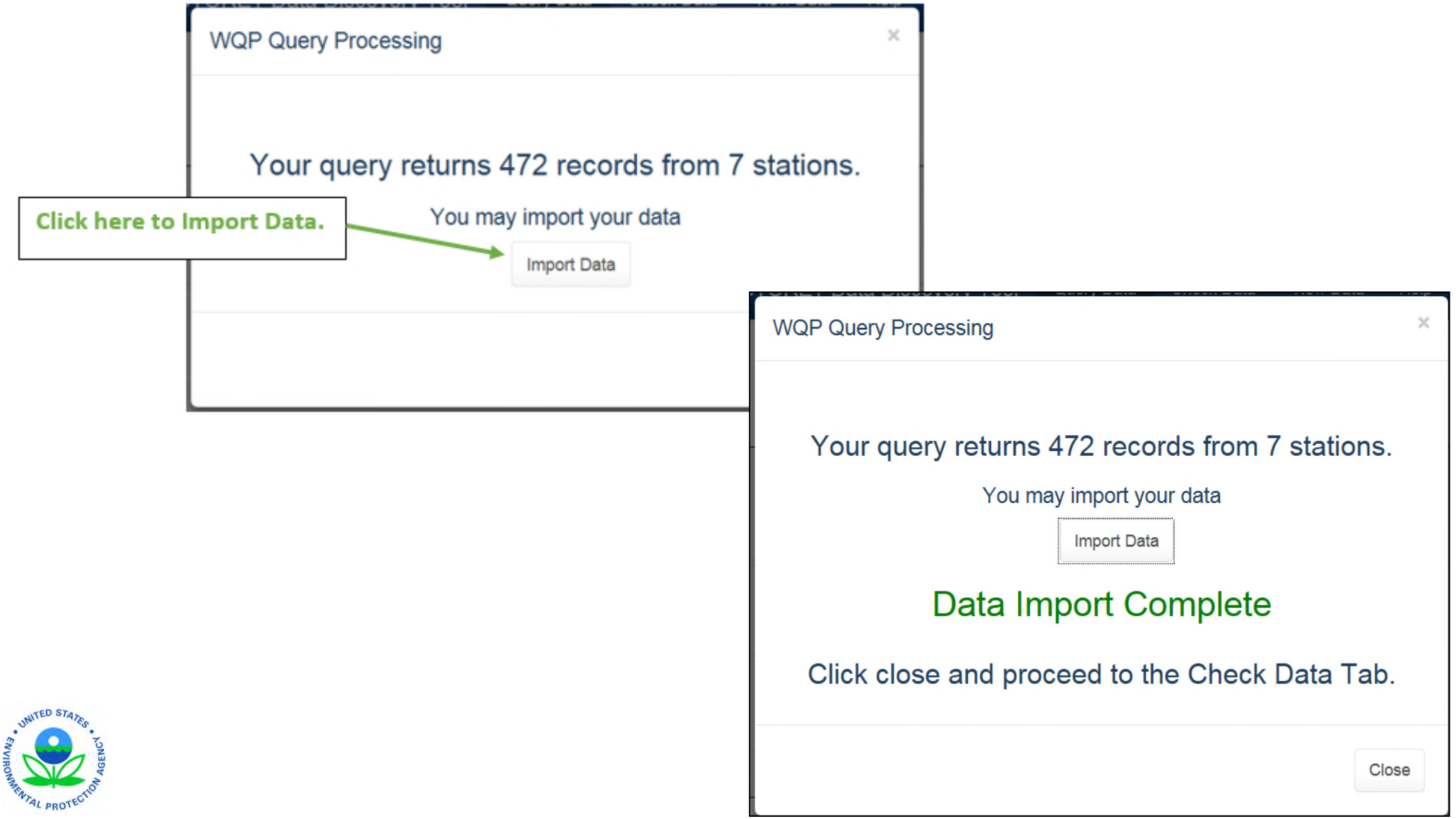


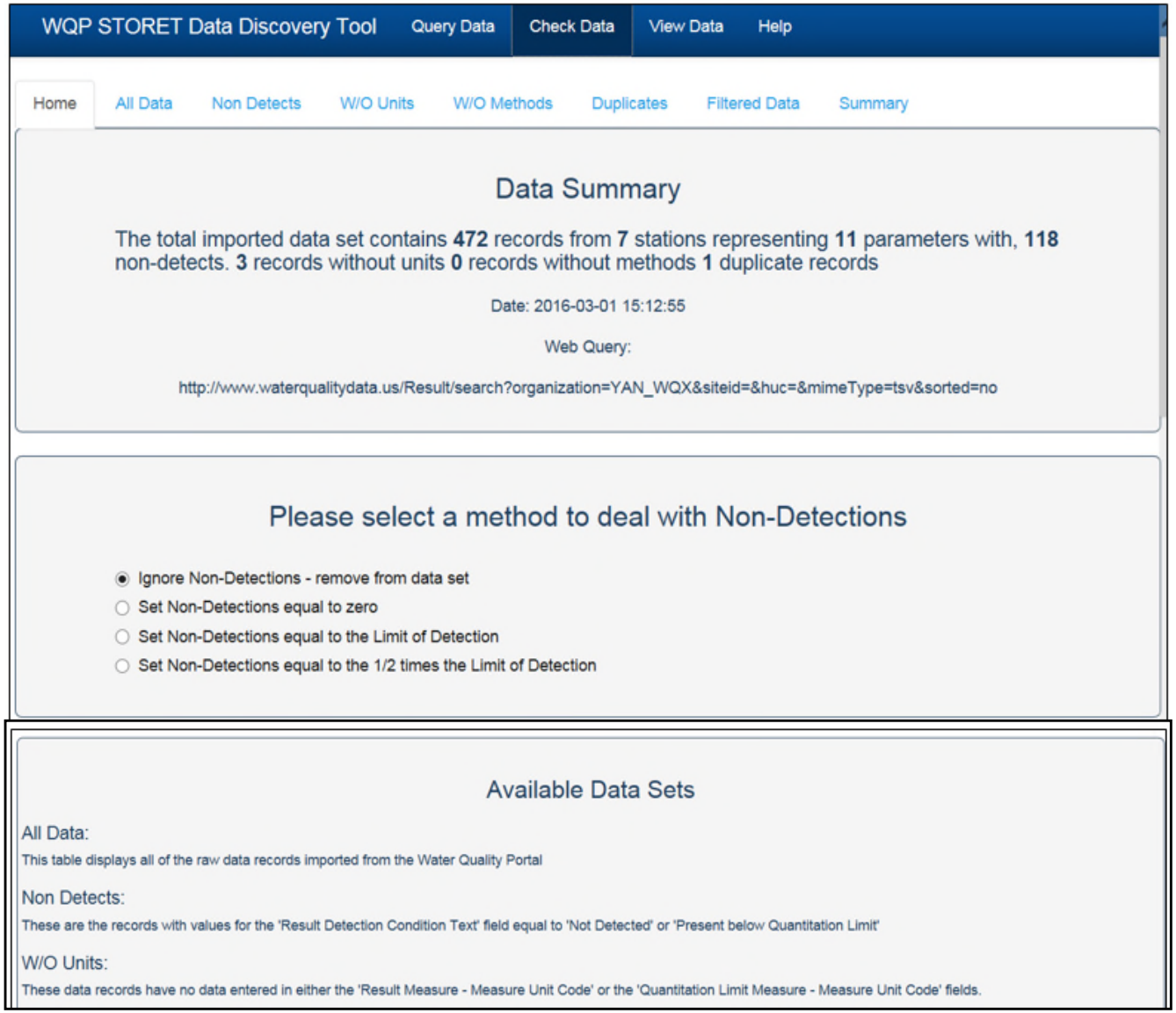
WQP Data Discovery Tool – Query Data

WQP Web Service Query URL. At the base of the 'Query Data' screen the web service url is displayed. As you apply and modify query parameters on this screen the query url will automatically update.

WQP Data Discovery Tool – Query Data



WQP Data Discovery Tool – Check Data



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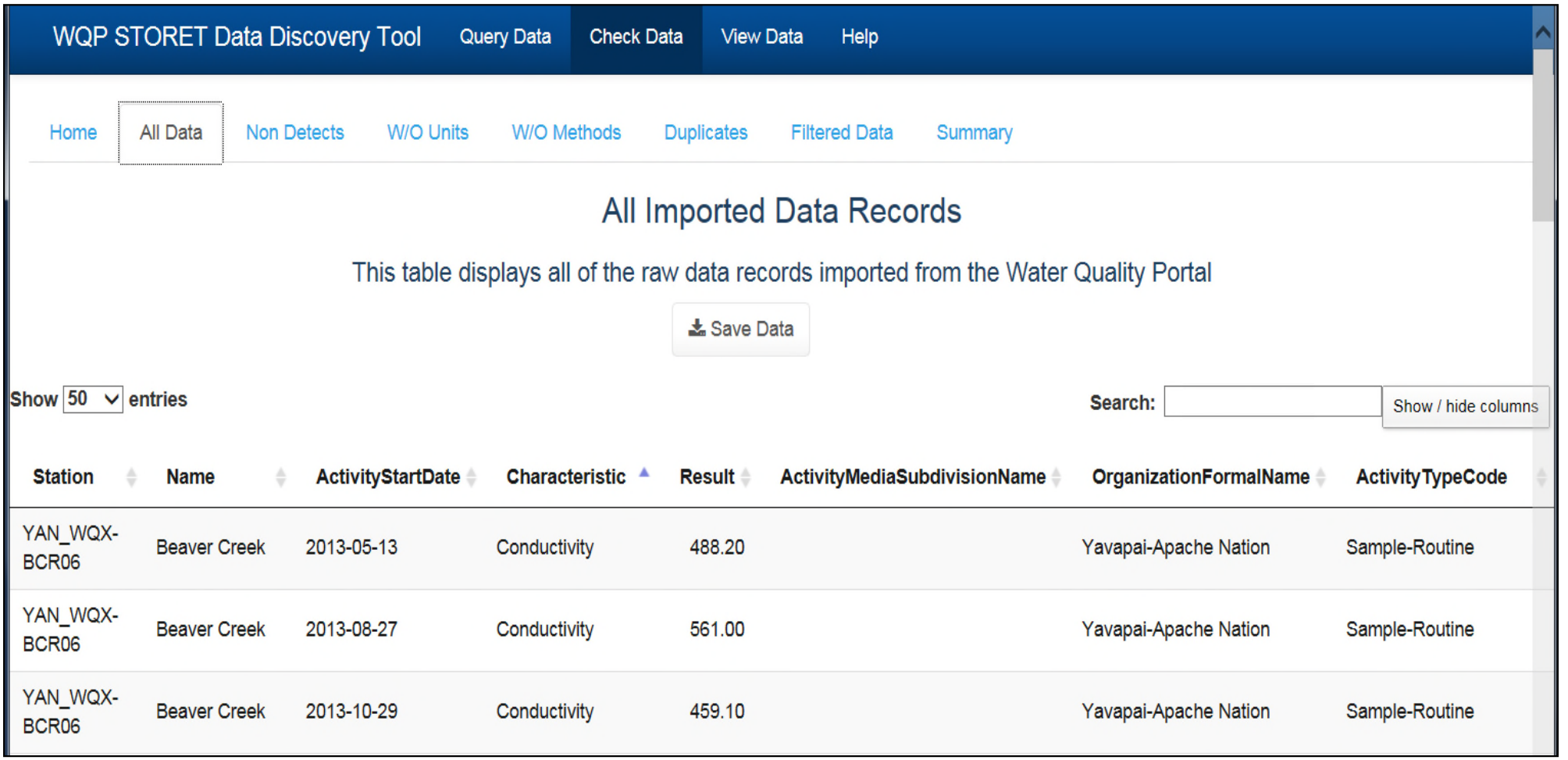

Station	Name	ActivityStartDate	Characteristic	Result	ActivityMediaSubdivisionName	OrganizationFormalName	ActivityTypeCode
YAN_WQX-BCR06	Beaver Creek	2013-05-13	Conductivity	488.20		Yavapai-Apache Nation	Sample-Routine
YAN_WQX-BCR06	Beaver Creek	2013-08-27	Conductivity	561.00		Yavapai-Apache Nation	Sample-Routine
YAN_WQX-BCR06	Beaver Creek	2013-10-29	Conductivity	459.10		Yavapai-Apache Nation	Sample-Routine

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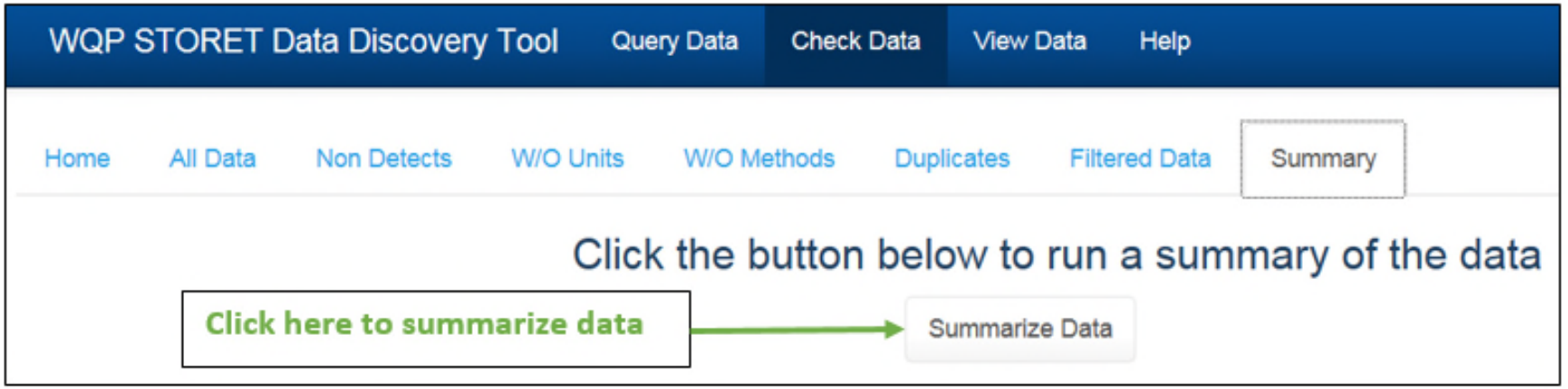
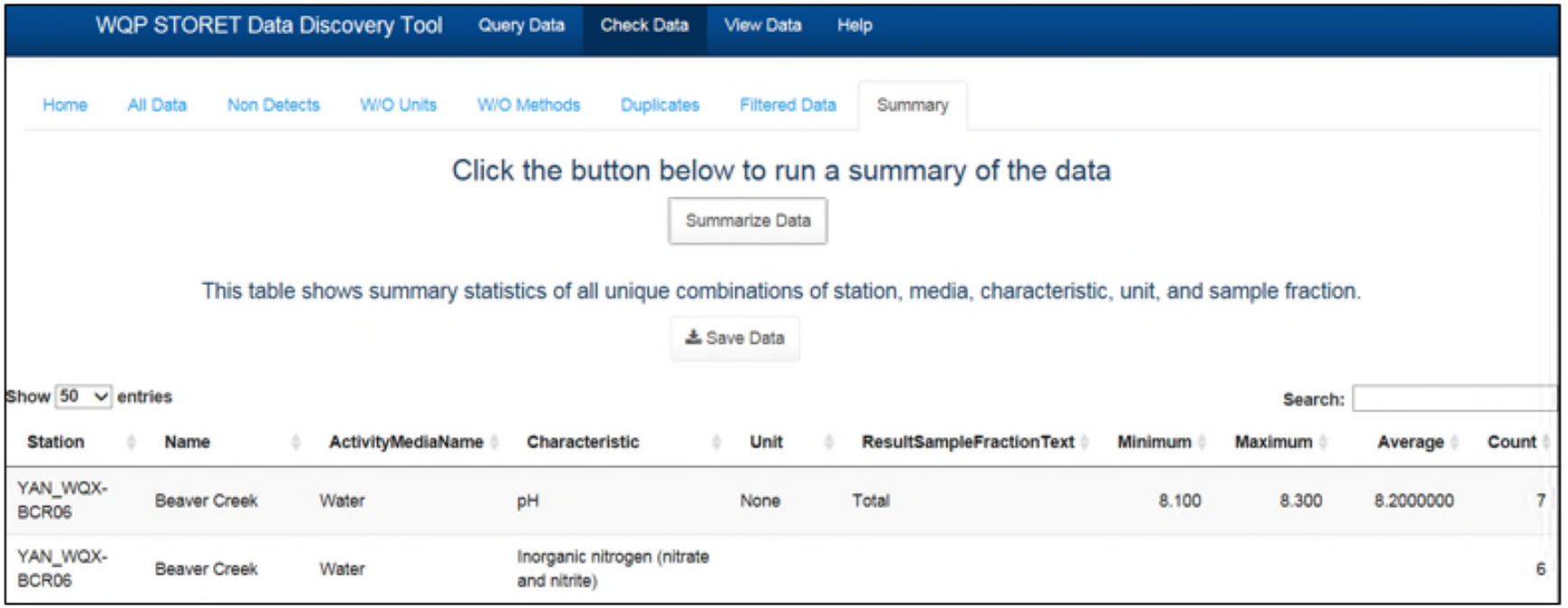
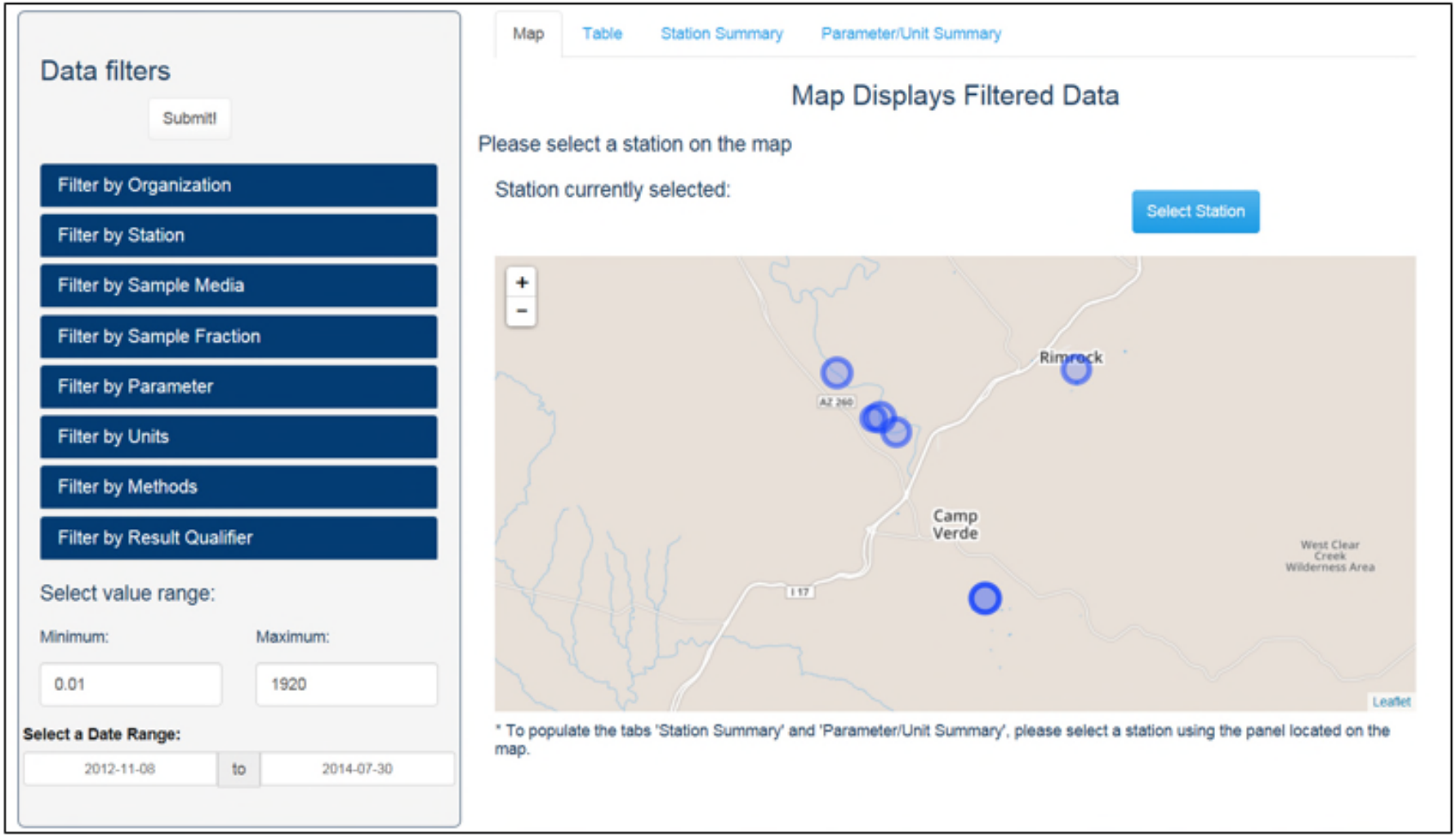




WQP Data Discovery Tool – View Data



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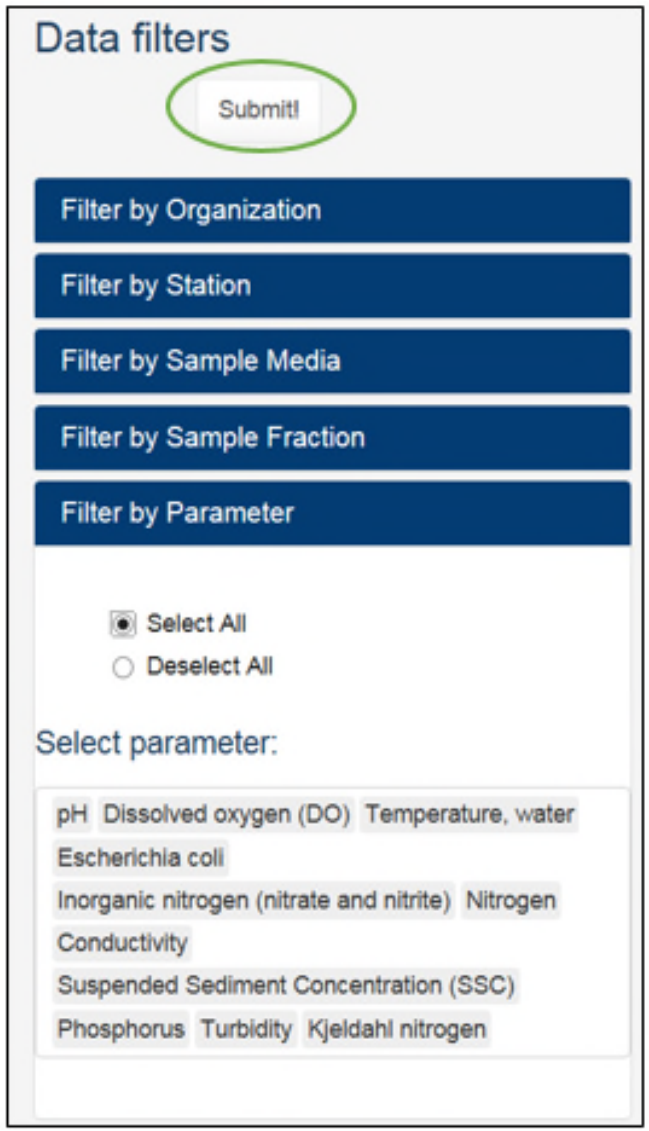
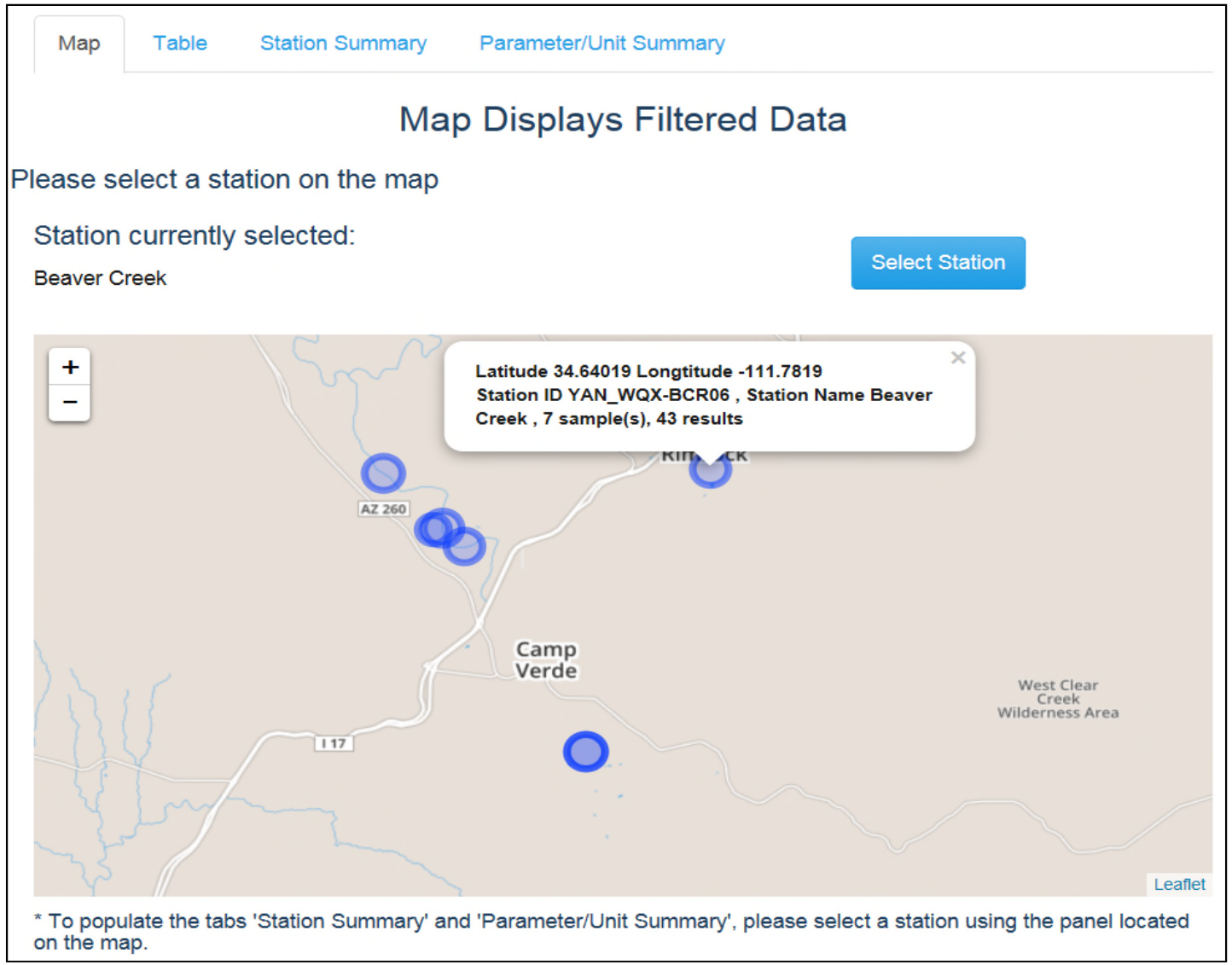


Data Filters. This panel provides users with several options for refining their data set. These filters drive the data available for display in the Interactive Map, table, station summary and Parameter/Unit Summary tabs.

WQP Data Discovery Tool – View Data



WQP Data Discovery Tool – View Data

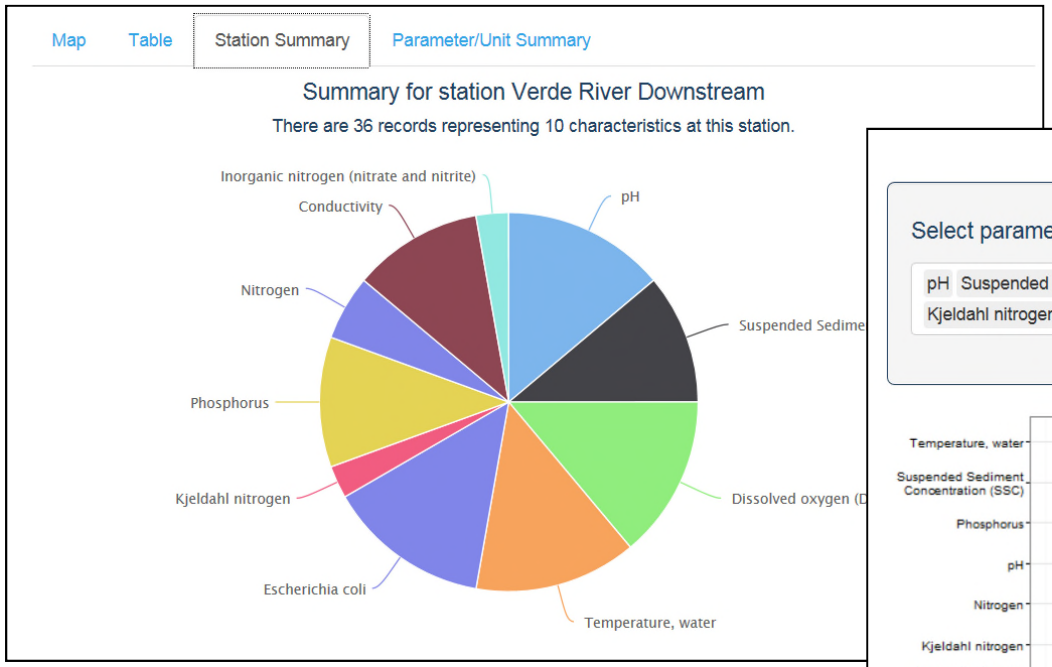
Map | Table | Station Summary | Parameter/Unit Summary

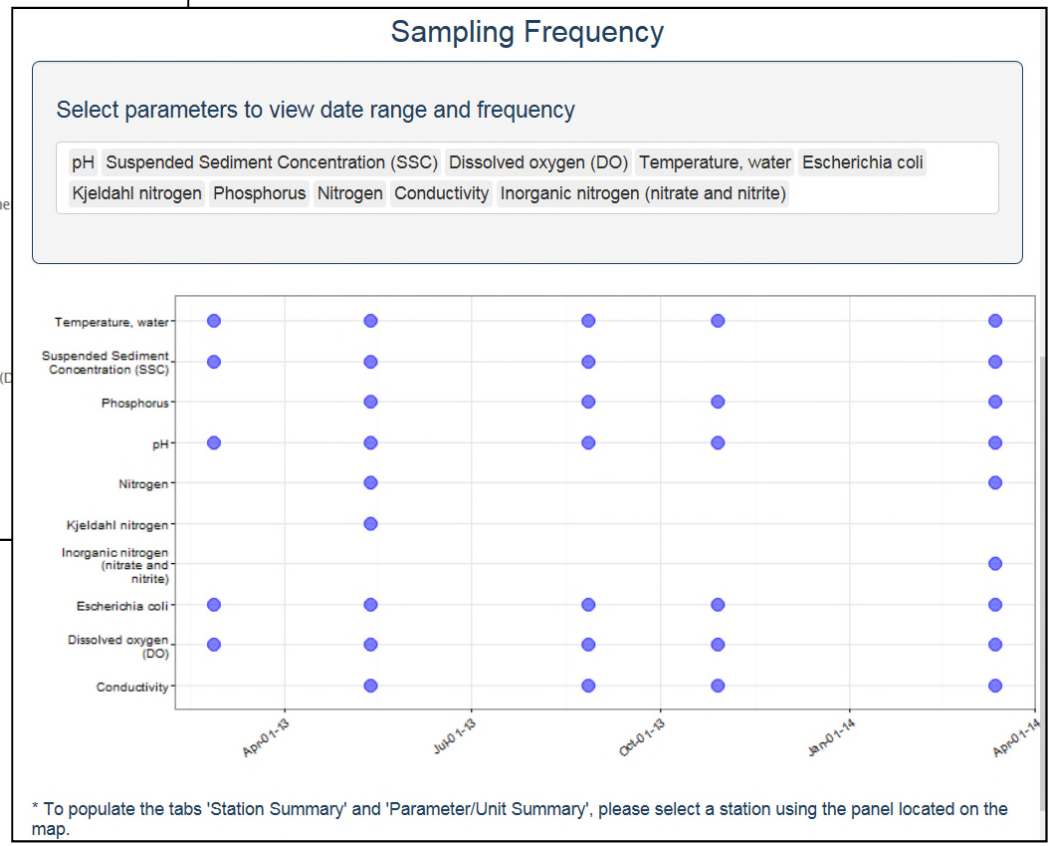
Save Data

Show 50 entries Search: Show / hide columns

Station	Name	Organization	Characteristic	Result	ActivityStartDate
YAN_WQX-BCR06	Beaver Creek	YAN_WQX	pH	8.2	2013-02-26
YAN_WQX-BCR06	Beaver Creek	YAN_WQX	Dissolved oxygen (DO)	10.11	2013-02-26
YAN_WQX-BCR06	Beaver Creek	YAN_WQX	Temperature, water	9.9	2013-02-26
YAN_WQX-BCR06	Beaver Creek	YAN_WQX	Escherichia coli	13.4	2013-02-26
YAN_WQX-BCR06	Beaver Creek	YAN_WQX	Temperature, water	18.8	2013-05-13

WQP Data Discovery Tool – View Data





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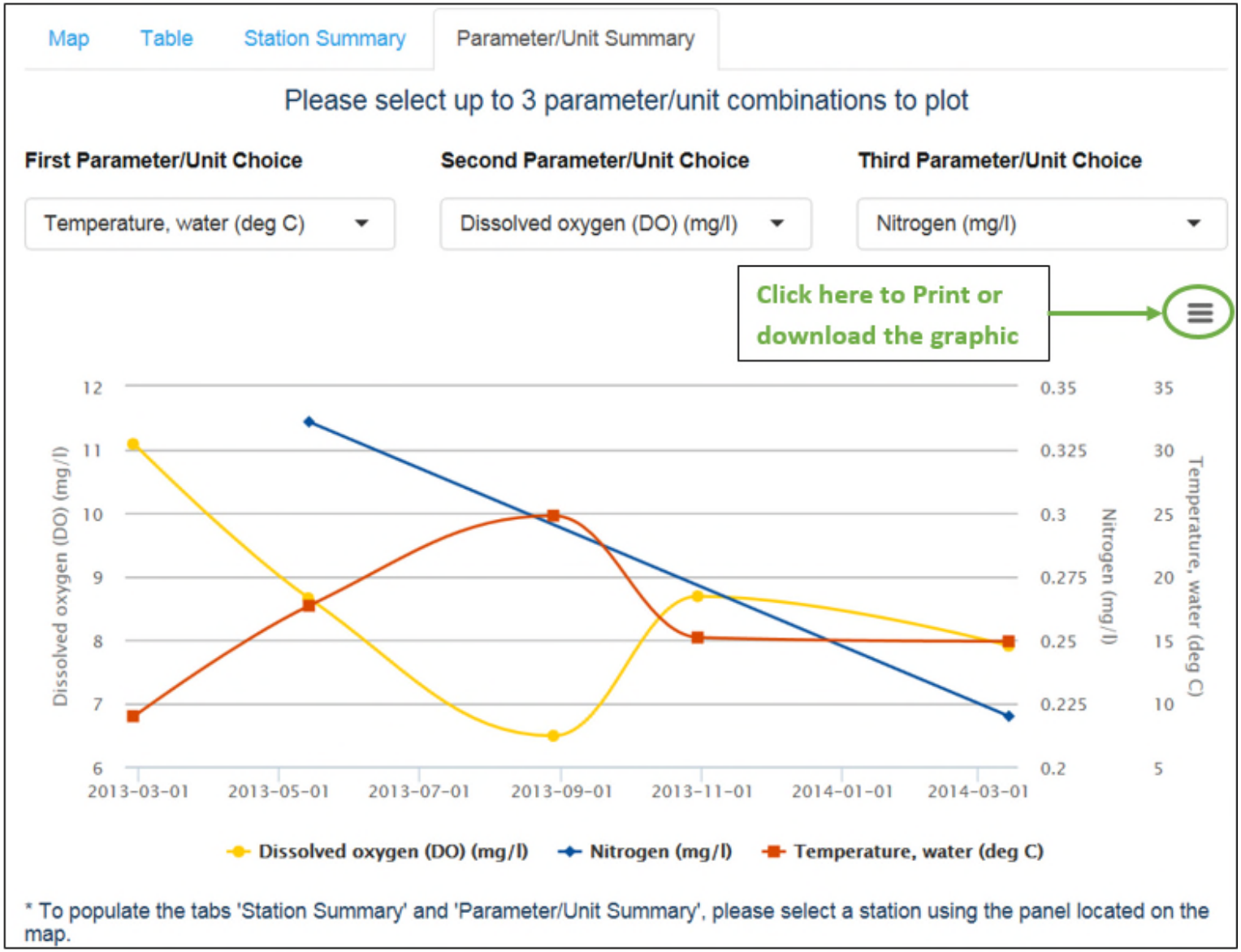
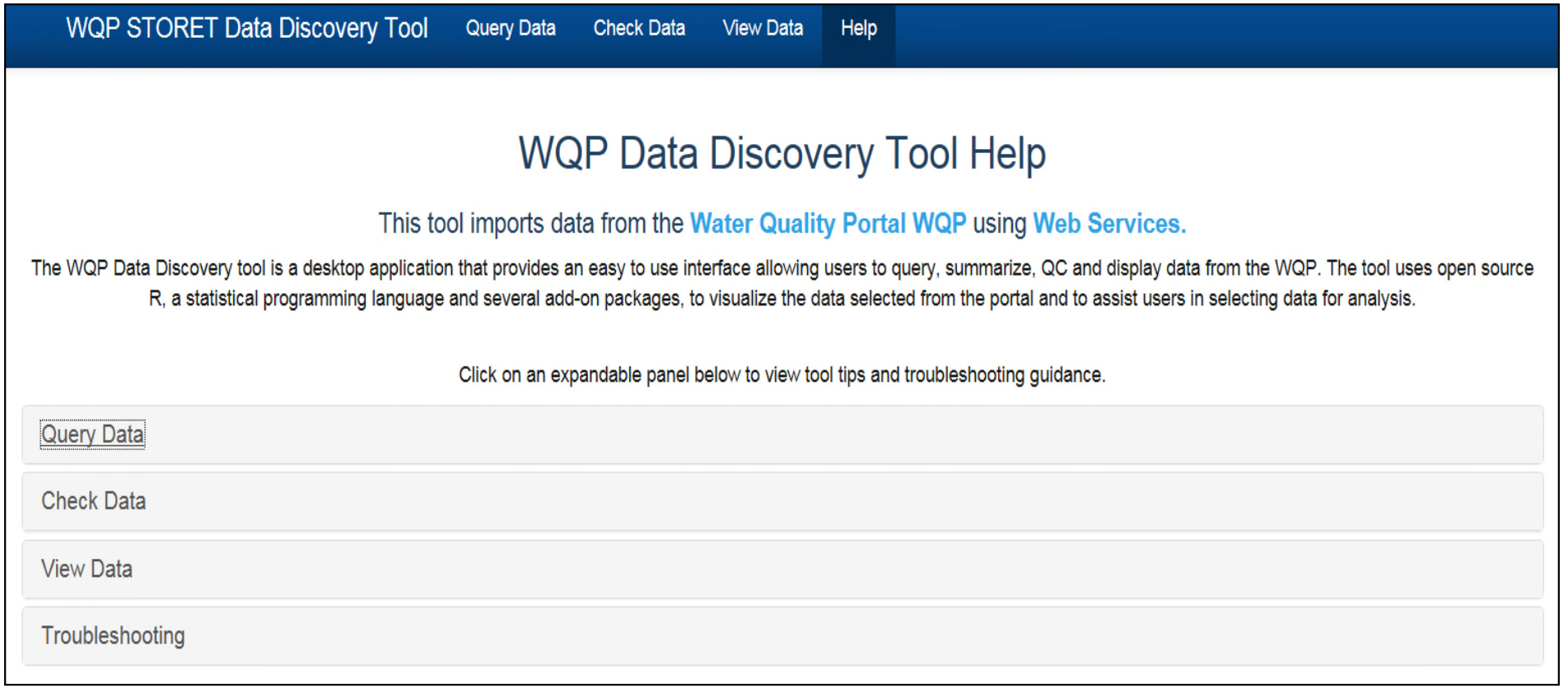
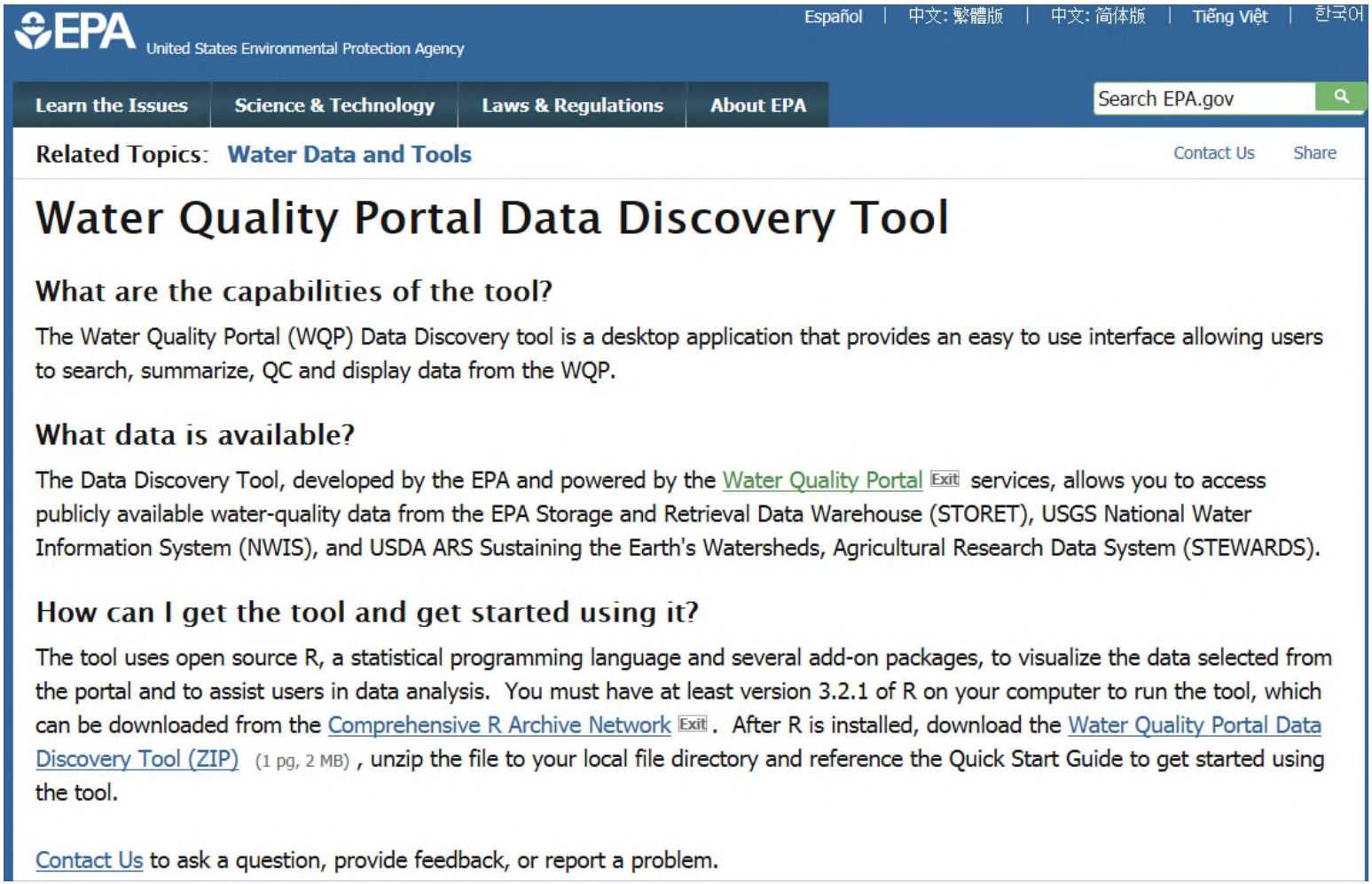


WQP Data Discovery Tool – Help Page



WQP Data Discovery Tool – Available Now!

https://www.epa.gov/waterdata/water-quality-portal-data-discovery-tool



EPA United States Environmental Protection Agency

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Water Quality Portal Data Discovery Tool

What are the capabilities of the tool?

The Water Quality Portal (WQP) Data Discovery tool is a desktop application that provides an easy to use interface allowing users to search, summarize, QC and display data from the WQP.

What data is available?

The Data Discovery Tool, developed by the EPA and powered by the Water Quality Portal Exit services, allows you to access publicly available water-quality data from the EPA Storage and Retrieval Data Warehouse (STORET), USGS National Water Information System (NWIS), and USDA ARS Sustaining the Earth's Watersheds, Agricultural Research Data System (STEWARDS).

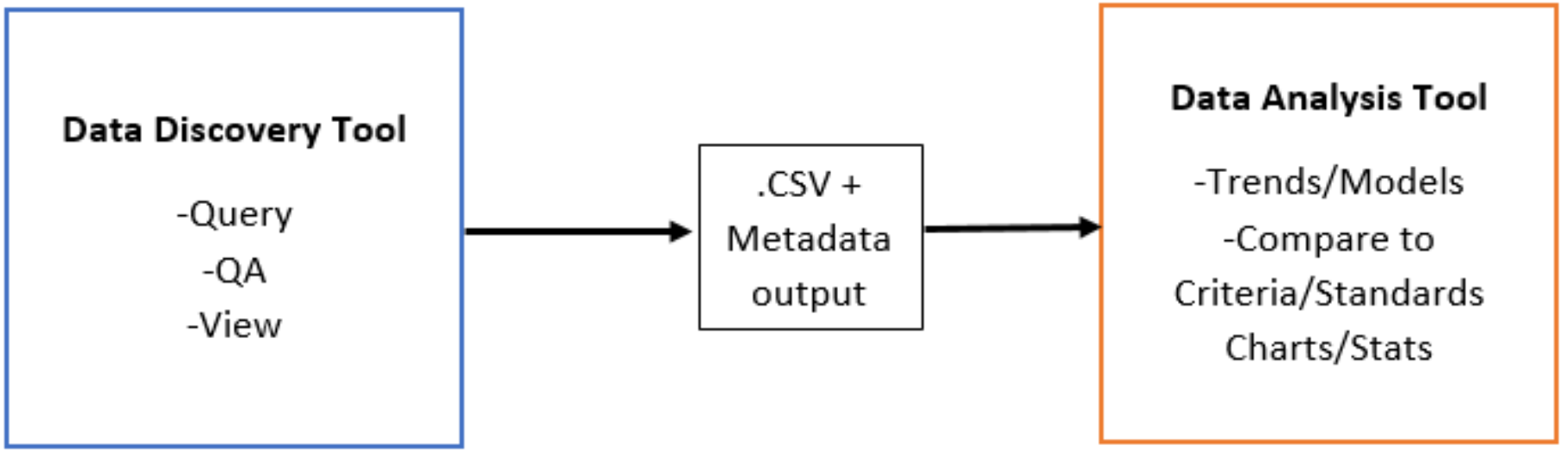
How can I get the tool and get started using it?

The tool uses open source R, a statistical programming language and several add-on packages, to visualize the data selected from the portal and to assist users in data analysis. You must have at least version 3.2.1 of R on your computer to run the tool, which can be downloaded from the Comprehensive R Archive Network Exit. After R is installed, download the Water Quality Portal Data Discovery Tool (ZIP) (1 pg, 2 MB), unzip the file to your local file directory and reference the Quick Start Guide to get started using the tool.

Contact Us to ask a question, provide feedback, or report a problem.

Future Adventures!
WQP Data Analysis Tool

- Currently under development
- Works with the output from the WQP Data Discovery Tool
- Allow users to compare a water quality parameter value against an established criteria value.



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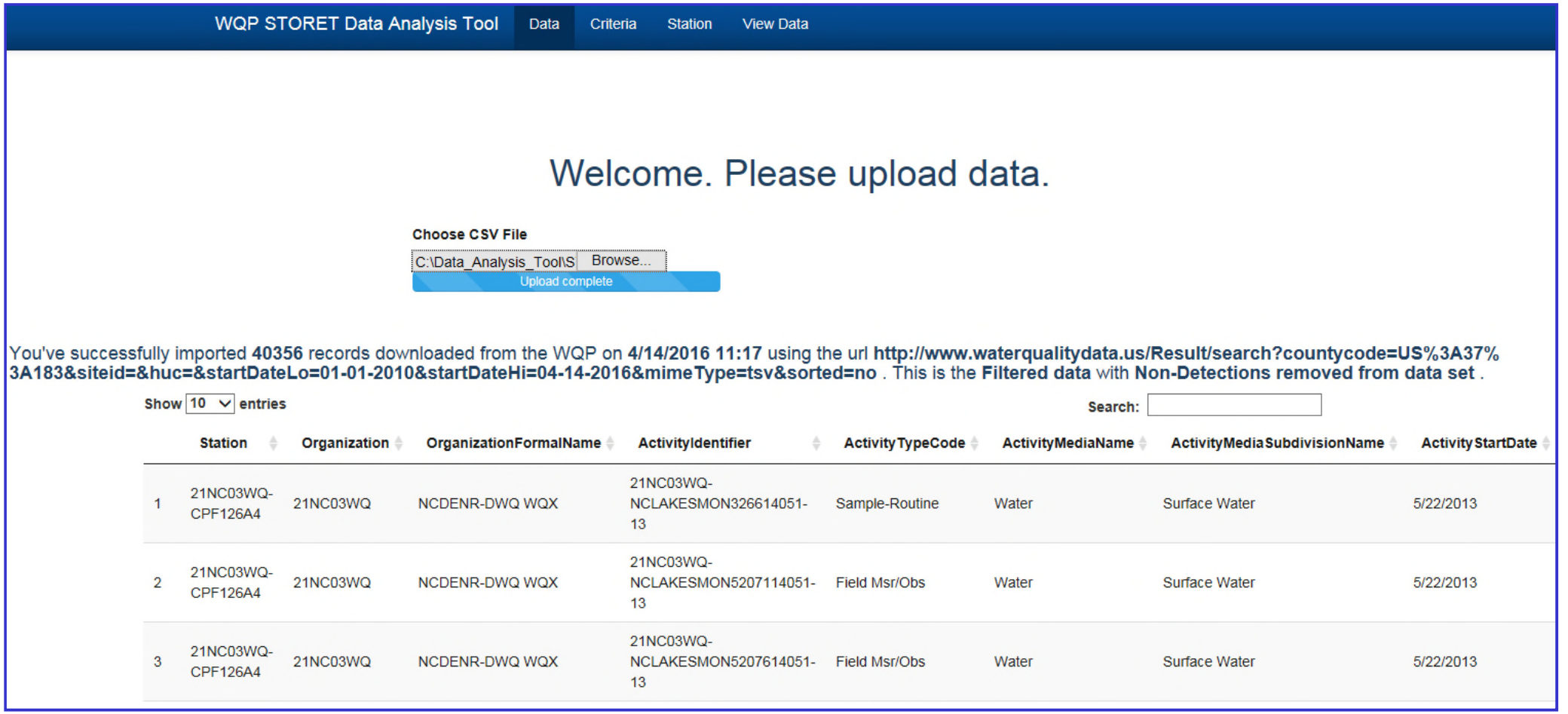

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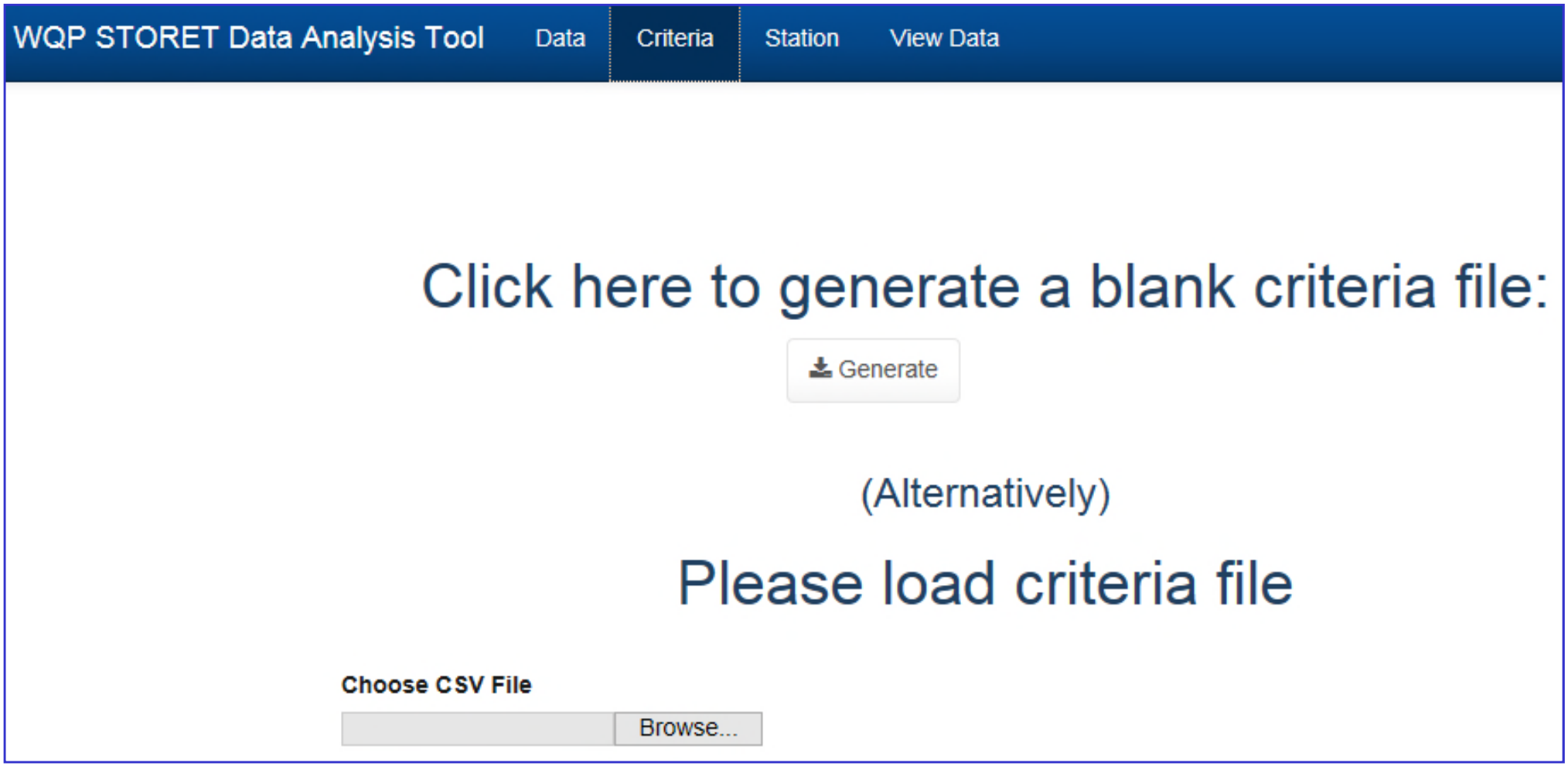
WQP Data Analysis Tool



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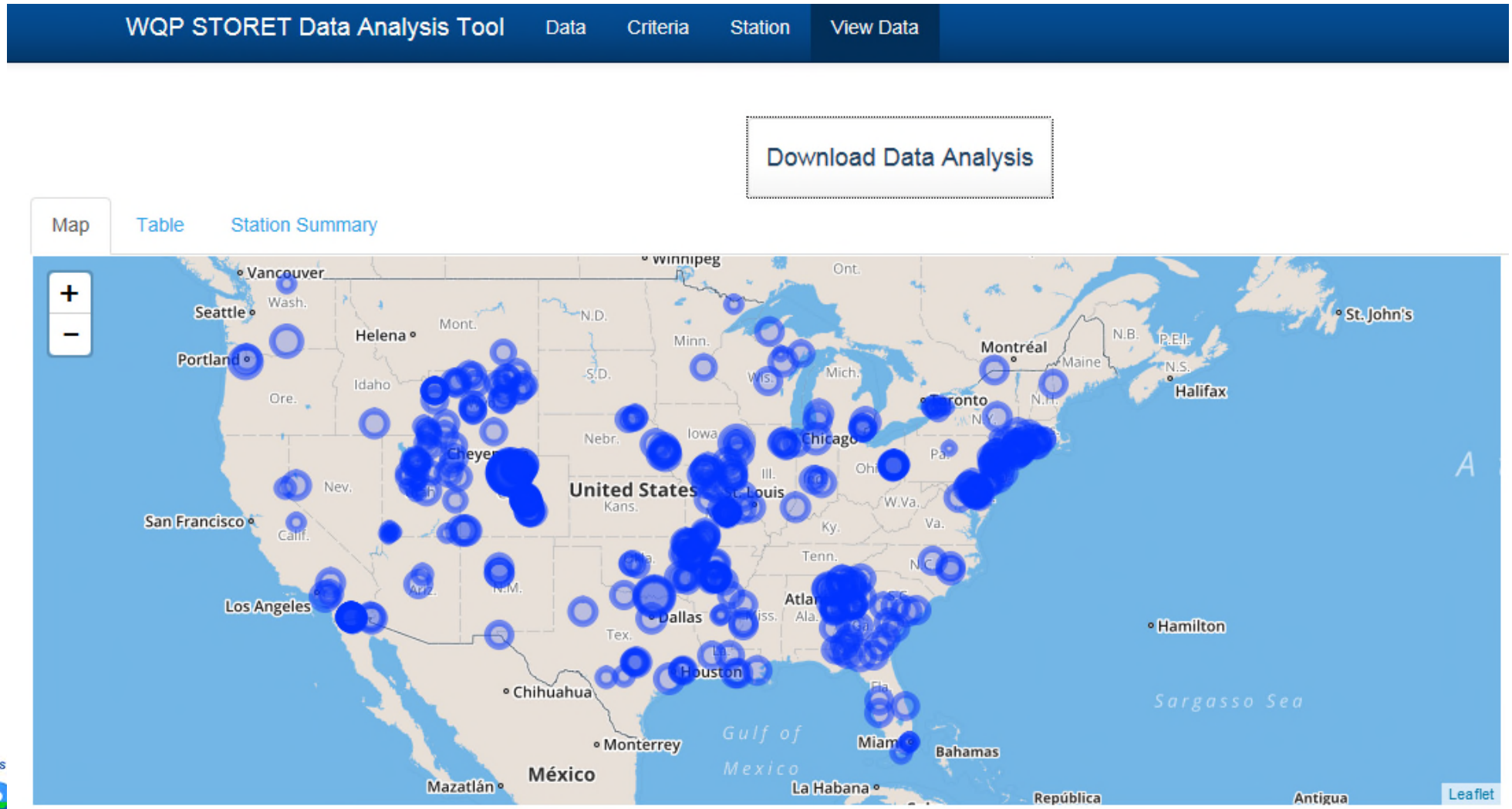

Conclusions

- The data discovery tool streamlines the process of compiling and performing QA on data set from the WQP.
- Utilized Open Source software for development:
  - Eliminates the costs associated with licensing fees.
  - Allows for easier code sharing for customization by jurisdictions.
- Reinforces interest in the WQP/STORET Data Warehouse and bolsters the user community's interest in providing data.

Download Info and Contacts

- Download the Data Discovery Tool: https://www.epa.gov/waterdata/water-quality-portal-data-discovery-tool

  - For more information contact:

    - Dwane Young (EPA), 202-566-1214, Young.dwane@epa.gov
    - Amy Wesley-Snider (RTI), 919-316-3711, alwesley@rti.org