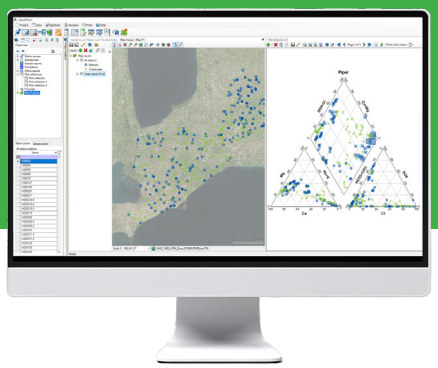
# AquaChem

## Water Quality Analysis And Geochemical Speciation Modeling Software

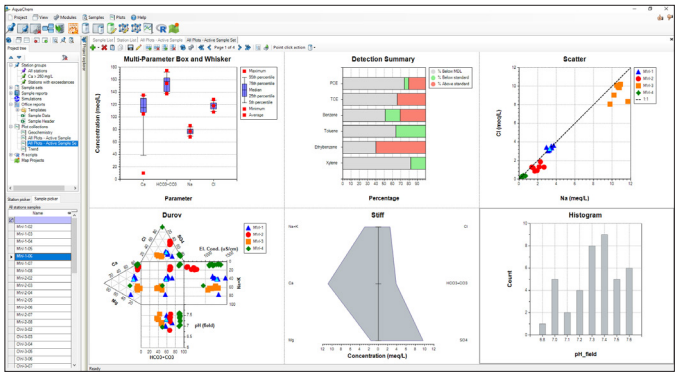
The go-to application for managing and evaluating geochemical and water quality data. AquaChem features a fully customizable database of physical and chemical parameters with integrated plotting, mapping, scripting, and reporting tools, along with a seamless integrated interface for PHREEQC, the popular USGS model for geochemical speciation.

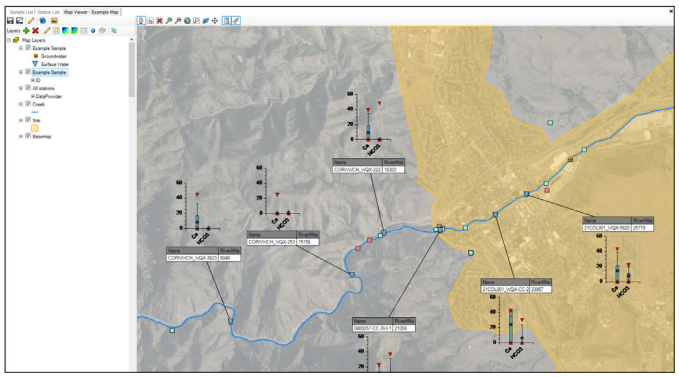


## Why Choose AquaChem?

### Benefits:

- Increase analysis and reporting efficiency with an extensive suite of geochemical plots and integrated reporting tools.
- Easily demonstrate regulatory compliance with chemical exceedance analyses and automated reporting tools.
- Quickly identify potential violations of regulatory limits.
- Save time by generating geochemical plots, speciation models, and reports for multiple locations and samples simultaneously.



### Data Input and Analysis:

AquaChem uses reported values in commonly measured units for each sample to automatically calculate additional geochemical values, including:

- **PHREEQC**: One-click calculation of activities and saturation indices, interface for setting up and running more advanced geochemical and speciation simulations.
- **Ion Analyses**: Water type/facies; Sum of ions, Cations, and Anions, Electroneutrality, Hardness, Alkalinity, Estimated TDS.
- **Exceedances**: Exceeds Active Standards or Natural Occurrence Range.
- **Agricultural and Irrigation Indices**: Sodium adsorption ratio, Magnesium Hazard, and Residual Sodium Carbonate.
- **Scaling and Corrosion Calculations**: Langelier Saturation, Larson-Skold Index, Puckorious Scaling, and Ryznar Stability Indices.
- **Organic Calculations**: Calculated Total Organic Carbon and Total Organic Halides.
- **Isotope Infiltration**: z(18O), T(18O), z(2H), T(2H).

AquaChem also includes on-the-fly unit conversion and simple to complex manual calculations.

### Plotting and Mapping

AquaChem renders samples in a variety of plot types selected from dynamically queried criteria or static lists to help evaluate data and reduce the time to generate reports:

- **Geochemical**: Piper, Stiff, Durov, Schoeller, Wilcox, Ternary, Giggenbach, Ludwig Langelier, Meteoric Water Line.
- **Statistical**: Box and Whisker, Histogram, Quantile, Probability.
- **General**: Scatter, Pie, Time Series, Detection Summary, Stacked Bar, Radial.
- **Mapping**: Plot sample data directly on maps, load basemaps and shapefiles, add callout tables and plots of any type listed above.

### Applications:

- Analyze & report aqueous geochemistry of municipal groundwater supply wells.
- Report analytical lab results of samples from contaminated sites.
- Manage water quality data from sanitary landfills.
- Identify mineralization trends for mining exploration and process water management.
- Identify water quality guideline exceedances.

Waterloo HYDROGEOLOGIC

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