



Solution Sheet

“With AQUARIUS we can quickly model the pollutant loads we are discharging, almost in real time, based on the actual continuous flow data and the turbidity and TSS data that we collect. That is the telltale data that confirms that all our urban water resource management efforts are making a difference.”

David A. Gilbey
Former Water Quality Program
Manager, City of Lake Oswego

Under section 303(d) of the United States Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters, too polluted or degraded to meet water quality standards. There are more than 40,000 impaired waters across the United States today.

Thousands of Designated Management Agencies (DMAs) are expected to develop Total Maximum Daily Loads (TMDLs) and implement Water Quality Management Plans (WQMPs) to protect their assigned water bodies. While most DMAs are collecting vast amounts of water quality data as part of their monitoring program, many are still data rich and information poor. AQUARIUS is the leading software used throughout North America to cost-effectively store, correct, visualize, process, and publish the timely, accurate water information needed to better manage the nation's waters.

Integrate Water Data Storage & Modeling on One Platform

AQUARIUS is designed with the end user in mind. It can instantly process vast amounts of complex multiparameter sensor data, continuous gauging and discharge data, groundwater sensor data, meteorological sensor data, as well as integrate discrete sampling measurements like water chemistry, biological data, and habitat information. Powerful processing tools automate workflows, streamline data production, and allow for collaboration among monitoring and modeling personnel. You spend less time processing data and more time on higher level analysis.

Automate Your WQMP with Real-Time Water Quality Data

DMAs named in TMDLs typically implement Best Management Practices (BMPs) to reduce pollutant loads in their watersheds. But how quickly can you measure the success of your efforts? Instantaneously. Agencies use AQUARIUS to automatically monitor the results of source control or other BMP activity, estimating real-time pollutant loads.

Make Better, Faster Decisions, Improving Water Quality

Checks are performed as data is acquired from stations to detect anomalies. Configurable alarms are triggered to warn users by SMS or email of unusual events or sub-standard station conditions.

AQUARIUS helps you measure WQMP success and pollutant load reductions by integrating with other enterprise database solutions. Your agency is able to make informed, timely decisions. Real-time information about water pollution provides immediate feedback to DMAs, a critical component in the adaptive management process.

Streamline Compliance

AQUARIUS streamlines regulatory compliance and reporting by turning volumes of data into accurate, defensible water quality information. Custom and standard reports can be produced and emailed to key stakeholders, ad hoc or on a scheduled basis, to meet regulatory reporting requirements – saving your agency time and money.

Import & Centralize Your Environmental Data

Whether working on a river, lake, wetland, or other water body, collecting, storing, and managing water quality



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“We have improved the accuracy of our record, which is critical. With AQUARIUS we are creating a reproducible, achievable, legally defensible record – and publishing that record to USGS standards, which is the national standard for us. In a litigation situation, we know we can call upon the correction history and audit trail that is automatically saved in AQUARIUS.”

Loren Smith
Superintendent, Water Division III
Wyoming State Engineer’s Office

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The world’s most advanced environmental monitoring agencies trust AQUARIUS to achieve higher data integrity, defensibility, and timeliness. Its simple design delivers the latest hydrological science and techniques in an intuitive interface. AQUARIUS allows water resource managers to correct and quality control time series data, build better rating curves, and derive and publish water quality and hydrometric data in real-time to make better, faster decisions about your precious water resources.

time series data can be unnecessarily challenging without the right tools. Disconnected files, disparate data sources, inconsistent formats, and multiple data manipulation and modeling tools make data production overly complex. AQUARIUS makes it simple to quickly ingest and process field data. Its user friendly and intuitive tools can join multiple sonde files, flag and grade potentially erroneous data, join files from multiple sensors, and automate data importing.

QA/QC Your Data in Real-Time

As field data is centralized, it must be checked for representativeness. AQUARIUS allows you to correct your data with proven and accepted methods of record computation. You can effectively account for conditions like clock drift, sensor fouling, and missing data due to hardware or power malfunctions. You can easily perform an initial data evaluation, create a time plot to visualize your data, derive descriptive statistics, and search for gaps, flagging the potentially erroneous data points. Automated procedures eliminate the majority of the tedious manual data workup processes.

Apply Complex Calculations & Models in Real-Time

Would you like to know what the estimated loads of pollutants are in your watershed right now? You can. AQUARIUS can mix data input sources, run sophisticated multi-input models,

build accurate rating curves, calculate daily aggregates, and more. You can combine meteorological, hydrological, and water quality time series. Whether performing a simple load estimate calculation or a more complex watershed process, AQUARIUS has the Math and Scripting tools needed to meet your real-time monitoring needs.

Customize Your Reports & Publish to the Web

AQUARIUS allows you to get the right information, to the right people, at the right time. Automated email notifications, ad hoc custom reports, regularly scheduled industry reports, and web publishing streamline data dissemination to stakeholders and regulatory authorities.

Defend Your Data Easily with Standards-Based Information

Your water quality information can withstand the scrutiny of any public comment and regulatory compliance process. AQUARIUS is engineered to support the latest global standards set by the USGS, EPA, ISO, WMO, and OGC, so agencies of all sizes can produce accurate and legally defensible water resource data. AQUARIUS also automatically builds a data processing, correction, and editing log, providing the transparency needed to defend your data. The audit log tracks all corrections, metadata, notes, and remarks for time series data, so you quickly find who performed what, when, and why.