

Pacific Northwest Water Quality Data Exchange

A Need for the Network

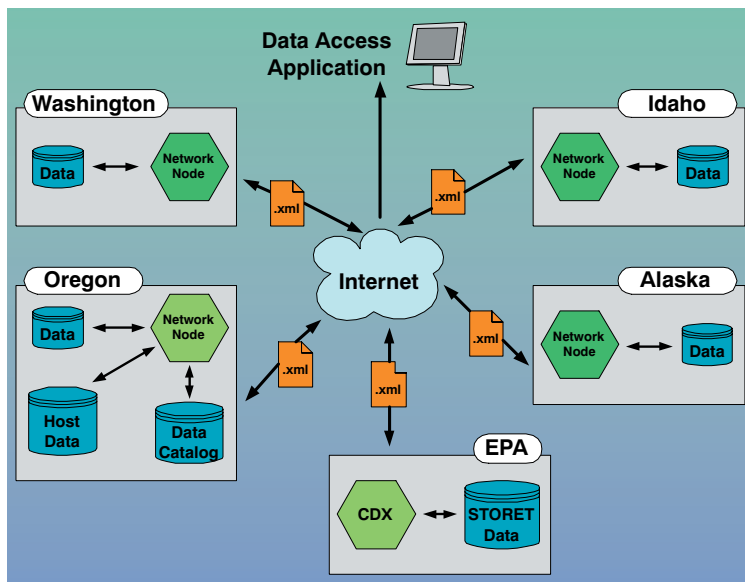
Clean water is an absolutely essential component of a healthy environment. Access to good water quality information is indispensable for managing and protecting our water resources. Environmental managers need timely, accurate, and consistent data that present a holistic picture of the aquatic environment. Often, these data are difficult to come by since water bodies can cross political boundaries and jurisdictions.

Physical linkages between upstream and downstream regions make the joint management of water resources extremely important. Managers face the challenge of coordinating and aggregating information from disparate sources with different data storage systems that are often incompatible. Like many of their colleagues, environmental officials from the states of Oregon, Washington, Idaho, and Alaska struggled to address the management and research needs of jointly regulated watersheds, such as the Columbia and Snake River basins.

An Exchange Network Solution

Together with the United States Environmental Protection Agency (U.S. EPA) Region 10 office, the Pacific Northwest states turned to the Exchange Network as a means of integrating their data and overcoming system incompatibility. Working closely together, the partners set out to build a comprehensive source of water quality data called the Pacific Northwest Water Quality Data Exchange.

After establishing individual Exchange Network Nodes (the exchange interface on the Network), the group developed a common set of data elements to be shared by all participants. Next, they created the eXtensible Markup Language (XML) schema required to share their data. Once a Trading Partner Agreement was in place to document the processes of the data sharing partnership, the states began publishing their water quality data in XML on their secure Network Nodes.



The architecture of the Pacific Northwest Water Quality Data Exchange.

Through the use of a simple web-based tool, partners on the exchange can simultaneously query multiple Network Nodes for water quality information. For example, with just a few clicks of a mouse, a user can access sampling and monitoring results from all states that lie within the Columbia River basin.

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Seeing Results

The Pacific Northwest Water Quality Data Exchange is a powerful management tool for environmental decision makers. In a region with a large number of shared water resources, the data exchange provides a single point of access to a comprehensive source of real-time water quality monitoring data.

Users have dramatically improved access to diverse and distributed data sets managed by the partners. Typically, sampling results are stored in discrete data systems with few means of being discovered. With the Pacific Northwest Water Quality Data Exchange, data have an outlet. Data that would have taken weeks to collect from disparate systems in multiple states can now be accessed in minutes using web services and XML, the technology of the Exchange Network.

The simple web interface allows a wide range of users to discover newly available water quality data and perform a variety of easily customizable queries. Users can even select an area of interest directly from interactive maps available on the web interface. This ease of use allows the exchange to fuel new lines of inquiry. More data are now available for testing new hypotheses about aquatic environments.

The data exchange is also allowing state partners to access data that was previously unavailable from new project partners. A low cost of entry for new participants is helping to bring in data from organizations such as Soil and Water (Natural Resources) Conservation Districts, Watershed Councils, tribal organizations, academia, and municipal, state, and federal agencies.

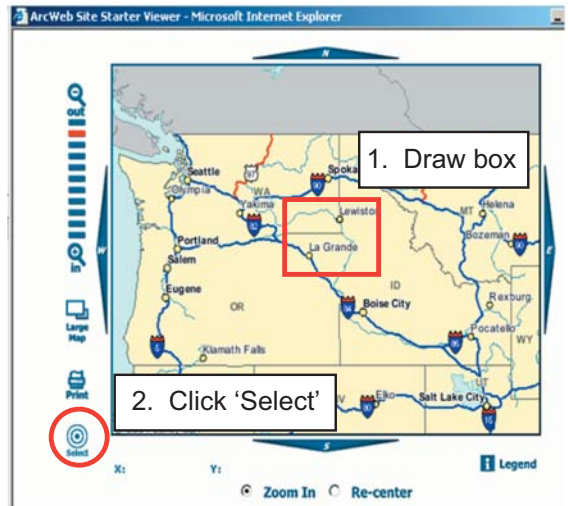
Learn More

To learn more about the Pacific Northwest Water Quality Data Exchange, contact:

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Users can build a query by drawing a box on an interactive map to select an area of interest.

Pacific Northwest Water Quality Exchange										
Data Sources										
Organization Identifier	Name	Contact	Telephone Number							
Oregon-DEQ	Oregon Department of Environmental Quality 811 SW 4th Ave, Portland, OR 97204	Curtis Cude	503-229-6086							
Idaho-DEQ	State of Idaho, Department of Environmental Quality 1418 North Millon, Boise, Idaho 83726	Jake Duplessie	208-373-0161							
WADOE	Washington State Department of Ecology P.O. Box 47600, Olympia, WA 98504-7600	Chris Reumiller / EIM Data Coordinator	360-407-4258							

Projects (3) Locations (27) Results (900)										
Provider	Project ID	Station ID	Start Date	Media	Method	QA Code	Analyte	Result Value	Unit	Qual
Idaho-DEQ	SDWIS/Idaho	1010113	5/15/2002	Water			NTTRITE (AS R)	0	mg/L	*
Idaho-DEQ	SDWIS/Idaho	1010113	5/15/2002	Water			NTTRITE (AS R)	0	mg/L	*
WADOE	380770	4154911	5/21/2002	Water	83218	E	Ammonia	0.049	mg/L	*
WADOE	380770	4154911	5/21/2002	Water	50757	E	Phosphorus	0.079	mg/L	*
WADOE	380770	4154911	5/21/2002	Water	1008	E	Total Persulfate Nitrogen	0.897	mg/L	*
WADOE	380770	4154911	5/21/2002	Water	34	E	Total Suspended Solids	24	mg/L	*
WADOE	380770	3033911	5/21/2002	Water	83218	E	Ammonia	0.027	mg/L	*
WADOE	380770	3033911	5/21/2002	Water	50757	E	Phosphorus	0.156	mg/L	*
WADOE	380770	3033911	5/21/2002	Water	1008	E	Total Persulfate Nitrogen	0.388	mg/L	*
WADOE	380770	3033911	5/21/2002	Water	34	E	Total Suspended Solids	24	mg/L	*
WADOE	380770	8534911	5/21/2002	Water	323	E	Fecal Coliform	180	#col/100ml	*
WADOE	380770	8534911	5/21/2002	Water	83218	E	Ammonia	0.021	mg/L	*
WADOE	380770	8534911	5/21/2002	Water	50757	E	Phosphorus	0.044	mg/L	*
WADOE	380770	8534911	5/21/2002	Water	1008	E	Total Persulfate Nitrogen	0.609	mg/L	*
WADOE	380770	8534911	5/21/2002	Water	34	E	Total Suspended Solids	18	mg/L	*
WADOE	380770	4154911	5/21/2002	Water	323	E	Fecal Coliform	3900	#col/100ml	*
WADOE	380770	6482911	5/21/2002	Water	21453	E	Temperature, water	12	deg C	*