exchange
Network

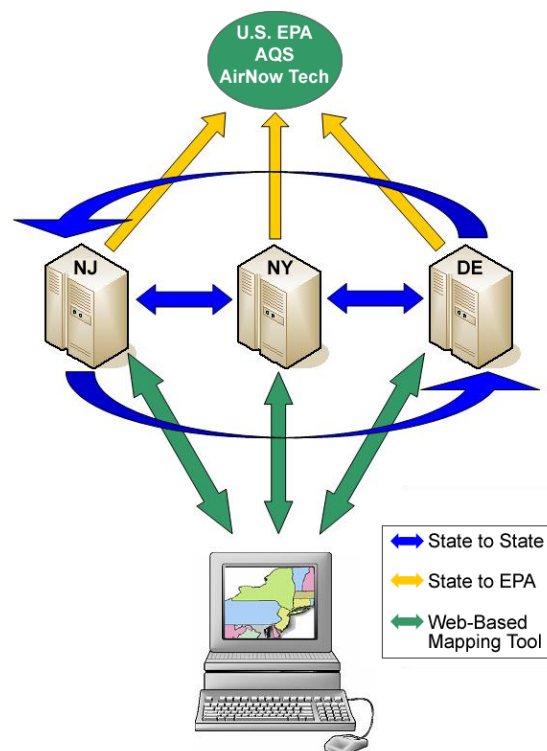# Air Quality Data Exchange

A Need for the Network

Environmental agencies collect information on airborne pollutants in order to manage risks to human and environmental health. The trouble is that these pollutants are free to roam wherever the wind carries them and they don't respect political boundaries. Pollution originating in one jurisdiction can readily impact the air quality in another. As such, agencies often have a keen interest in obtaining air quality data from their neighbors in order to predict and mitigate risks to their own populations. This information can be particularly critical when responding to emergencies involving the release of airborne contaminants.

Unfortunately, good data can be hard to find. Agencies from the states of New Jersey, New York, and Delaware faced a number of obstacles when trying to share information that was both timely and sufficiently detailed. State data was available after it was reported to U.S. EPA's Air Quality System (AQS) and AIRNow system; however, the information was not accessible in real-time and it covered a limited set of pollutants. If the states needed to immediately share detailed information on a non-reported pollutant, they were forced to contact one another by telephone or email and hope that someone was available to provide a timely and accurate response to the request.

Without a standard and automated method for sharing up to the minute ambient air data, the states' ability to predict and respond to threats from hazardous air quality was sharply limited.

An Exchange Network Solution

The Exchange Network offered the states the solution they needed to build the Air Quality Data Exchange (AQDE). The AQDE allows the states to use their Exchange Network Nodes to share air monitoring data with each other automatically—almost as quickly as it is collected. Working closely with the U.S. EPA Office of Air and Radiation, the team designed a solution that allows the states to use a single, standardized approach for sharing a rich set of air monitoring data with any Exchange Network partner. The group also produced a web-based interface that allows users to search for air quality information easily by selecting monitoring stations plotted on a map. The final product is a virtual and customizable regional air quality monitoring network made possible through the technology of the Exchange Network.

U.S. EPA
AQS
AirNow Tech

NJ   NY   DE

→ State to State
→ State to EPA
→ Web-Based Mapping Tool

Better Information for Better Decisions

Thanks to the AQDE and the Exchange Network, air quality data can now flow as readily as the air itself. New Jersey, New York, and Delaware can make their information available to one another automatically and immediately. That kind of access enables better decision making and better government services. For example, richer sets of real-time data can help environmental agencies issue timelier and more accurate air quality warnings for sensitive populations. Homeland security personnel can craft more effective response plans by tracking and predicting the movement of airborne contaminants released during emergency situations. Health officials can monitor and analyze current air quality conditions to better protect human health. In short, decision makers can access the latest information when they need it—no more phone calls or emails required.

Authorized users of the AQDE can explore air quality data through an interface that works in any internet browser. Users can request information from all three states and specify substance names, date and time ranges, and a variety of other parameters. The interface also includes a map viewer that allows users to easily select and view data from monitoring stations by location.
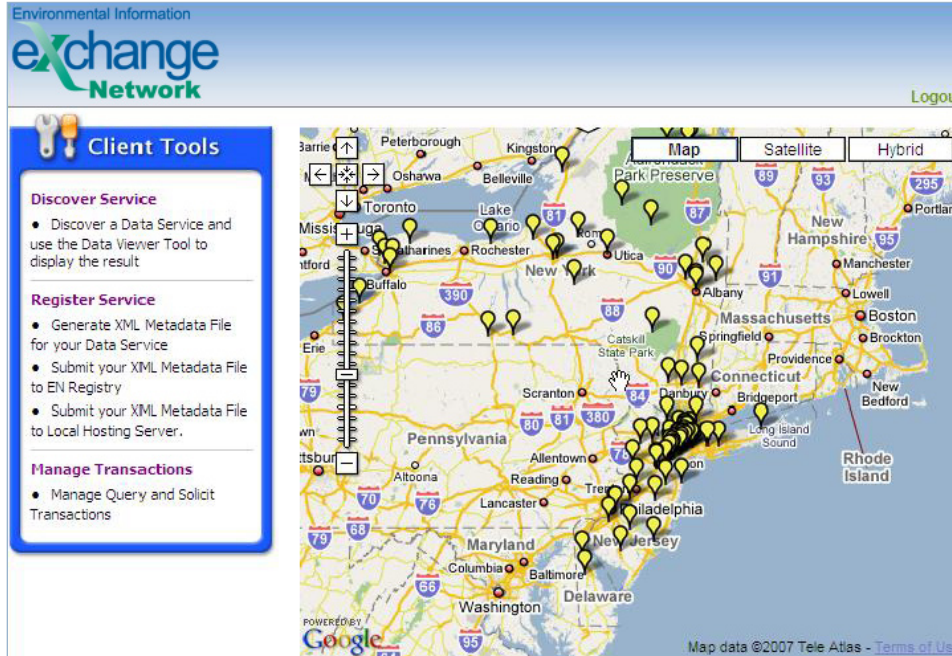
Information from the AQDE is used to display the locations of air monitoring stations in the three participating states. Users can click pins on the map and retrieve detailed air quality information from any monitor.

The AQDE also allows the states to take advantage of some tremendous reporting efficiencies. Through strong collaboration with the U.S. EPA Air Program, the AQDE was built using components of an existing exchange with EPA's Air Quality System (AQS). That means Exchange Network partners now have one standard way to share air quality data with each other and fulfill federal reporting requirements to AQS. Partners can even send hourly air quality data to AirNow Tech, EPA's web-based system for analyzing air quality information. With the AQDE, one system securely and automatically delivers high quality data to many different customers while saving valuable state resources.

Learn More

To learn how your organization can use the AQDE visit the Exchange Network website at: http://www.exchangenetwork.net/exchanges/air/aqde.htm.