

IDENTIFYING AND ACCESSING USGS WATER-QUALITY DATA

Alex K. (Sandy) Williamson

*U.S. Geological Survey
Tacoma WA 98402 98402
253-552-1683; akwill@usgs.gov*

ABSTRACT

The U.S. Geological Survey has collected, analyzed, and published a large amount of water-related data available for download on the web. These data sets include tens of millions of measurements of flow quantity, water-quality, and biology made throughout the United States, from samples collected from the late 19th century to the present (2007). Although much of these data can be easily obtained, water-quality data can be difficult to efficiently identify and access. The U.S. Geological Survey continually develops new tools to assist the public in identifying and accessing these data.

This talk will focus on two USGS web sites: the National Water Information System-Web (NWIS-Web) and the National Water Quality Assessment (NAWQA) Data Warehouse. The National Water Information system [NWIS - <http://waterdata.usgs.gov/nwis>] includes more water-quality data than the NAWQA Data Warehouse, and has a new web search tool that takes advantage of publicly available mapping services (Google Maps, Google Earth) to produce high-quality dynamic maps to help users access the data they need. A water data user can use this site by answering a few questions about their data needs and in a few seconds see the results displayed in a table and map.

The NAWQA Data Warehouse [<http://water.usgs.gov/nawqa/data>] was developed to make NAWQA data accessible to USGS researchers and the general public. Recently, the capability to map water-quality data was added to the website, using the USGS's National Map, and the ability to export mapping results in the open KML format for use in Google Earth and other mapping or GIS software systems.

NWIS-Web and the NAWQA Data Warehouse both include:

- Chemical concentrations in water, sediment, and aquatic organism tissues,
- Site and well characteristics,
- Computed daily values of continuously measured quantities (streamflow, temperature, and others).

In this presentation, both websites will be demonstrated and compared in terms of their utility for different water applications, such as investigating ambient conditions, reconnaissance water-quality analysis, and water sampling network design. The presentation also will include an example of how the USGS data can be integrated with other data sets to answer real-world water-quality questions.

KEYWORDS

Data management, databases, USGS Water Resources Discipline, water quality data, mapping, Google maps/earth