

# NWISWEB: THE WEB SERVER FOR THE NATIONAL WATER INFORMATION SYSTEM

Heather L. Welch  
U.S. Geological Survey, Pearl, Mississippi

## INTRODUCTION

The U.S. Geological Survey (USGS) maintains a distributed network of computers and file servers for the storage and retrieval of water data collected through its activities at approximately 1.5 million sites around the country. The USGS is testing a new web server (NWISWeb) for its National Water Information System (NWIS) data that includes surface water, water quality, and ground-water data, and site related information. NWISWeb was created to provide both internal and external users of USGS water information with an easy to use, geographically seamless interface to the large volume of USGS water data. Data are updated from the NWIS sites on a regularly scheduled basis, and real-time data are transmitted to NWISWeb several times a day.

NWIS data come from all 50 States, selected territories, and border stations. Of the sites with NWIS data, 1.2 million are wells, 350,000 are water-quality sites, and 19,000 are streamflow sites, of which over 5,000 are real-time sites. NWISWeb contains data for about 4.3 million water-quality samples, including about 64 million individual analyses.

## STRUCTURE AND PURPOSE

Online access to the NWIS data is organized around five categories: real-time, site information, surface water, ground water, and water quality (fig. 1). Users can specify search criteria in any of the categories based on individual need. NWISWeb provides several output options for the resulting data: real-time streamflow, water-level and water-quality graphs, data tables and site maps; tabular output in html and **ASCII** tab delimited files; and lists of selected sites as summaries with reselection capabilities for details.

### Real-Time Data

The available real-time data on the NWISWeb site are recorded at 15- to 60-minute intervals

and are relayed to USGS offices via satellite, telephone, and/or radio. By simply selecting a site on a map, the user can view up to 31 days of discharge, gage height, and rainfall data for active surface-water gages (fig. 2). The available data can be viewed in tabular or graphical form. Real-time water quality data should be available within a few months.

### Site Information

This option allows the user to view inventory information about sites at stream reaches, wells, test holes, springs, tunnels, drains, lakes, reservoirs, ponds, excavations, and water-use facilities. Information can be retrieved for viewing and for download and import into other software, including GIS (geographic information system) software. This category also provides links to all water data available for individual sites.

### Surface Water

The surface-water option includes real-time data for the previous 31 days, provisional daily values for the previous 18 months, and published daily value data for the entire period of record (fig. 3). The user can also view published historic annual peak stage and discharge data. There is also an option that allows statistics to be computed on daily, monthly, and annual values.

### Ground Water

The ground-water database contains real-time data for the previous 31 days, ground-water site inventory, and ground-water level data for the entire period of record (fig. 4). The site option provides descriptive information such as latitude and longitude, well depth, site use, water use, and aquifer. Ground-water level data can be retrieved in a tabular or graphical format. Some sites in the United States have continuous record water-level measurements. These can be viewed using the real-time ground-water data option.



USGS Internal Access

Water Resources

New system for serving water data. May be unavailable for periods of performance tuning. Other water data links remain available.

Data Category: Home

Geographic Area: United States

GO

## Water Resources Data for USA

**Data Category**

Real-time

Site information

Surface water

Ground water

Water quality

Data transmitted from selected surface-water, ground-water, and water-quality sites

Descriptive site information for all sites with links to all available water data for individual sites.

Water flow and levels in streams, lakes, and springs.

Water levels in wells.

Chemical and physical data for streams, lakes, springs, and wells.

Introduction

These pages provide access to water-resources data collected at approximately 1.5 million sites in all 50 States, the District of Columbia, and Puerto Rico. Online access to this data is organized around the categories listed to the left.

The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public, State and local governments, public and private utilities, and other Federal agencies involved with managing our water resources.

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[\[Web-side processing\]](#)
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Figure 1. The NWISWeb Home Page.

## Real-Time Data for Mississippi

Redefined display

Introduction

Group table by

-- no grouping --

Select sites by number or name

GO

Daily Streamflow Conditions

Select a site to retrieve data and station information.

Mon., Apr. 9, 2001 17:04GMT

USGS

Explanation

- New record high for day
- 2.90th percentile
- 75th - 80th percentile
- 25th - 74th percentile
- 10th - 24th percentile
- < 10th percentile
- New record low for day
- Not ranked

The colored data on this map depict streamflow conditions as a percentile, which is computed from the period of record for the current day of the year. Only stations with at least 20 years of record are used.

The gray circles indicate other stations that were not ranked in percentiles either because they have fewer than 20 years of record or because they report parameters other than streamflow. Some stations, for example, measure stage only.

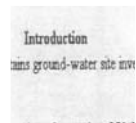
Statewide Streamflow Table

Real-time data typically are recorded at 15-60 minute intervals, stored onsite, and then transmitted to USGS offices every 1 to 4 hours, depending on the data relay technique used. Recording and transmission times may be more frequent during critical events. Data from real-time sites are relayed to USGS offices via satellite, telephone, and/or radio and are available for viewing within minutes of arrival.

All real-time data are provisional and subject to revision.

|                |                                                                                |
|----------------|--------------------------------------------------------------------------------|
| Build Table    | Build a custom summary table for one or more stations.                         |
| Build Sequence | Build a custom sequence of graphical or tabular data for one or more stations. |

Figure 2. Real-time data home page for the State of Mississippi.



such as air temperature and barometric pressure are also available at some  
ere this information is transmitted automatically, data are available from the  
stem.

