

The Real-Time Data Network of the U.S. Geological Survey

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When it comes to collecting remotely acquired data, the U.S. Geological Survey (USGS) has the process wired. USGS has been providing near-real-time streamflow data on the Web since 1994, and more recently the agency has added data on stream stage, depth to groundwater, water quality parameters such as temperature and specific conductance, elevation of reservoirs and lakes, and precipitation. Additional water quality parameters such as turbidity and concentrations of nitrogen, chlorophyll, chloride, and sodium; and meteorological parameters such as wind speed and direction, solar radiation, and snow water content are available for some locations. All data collected throughout the United States are available from a single Web site, waterdata.usgs.gov/nwis/rt.

According to the USGS (2002), data are collected from more than 8,800 real-time sites nationwide. The agency defines “real” time

**Real-Time Data Available from the U.S. Geological Survey*
Number of Stations Monitored (Southwest states only)**

	streamflow discharge	depth to groundwater	water quality		precipitation	reservoir/ lake elevation
			temperature	specific conductance		
Arizona	153	10	3**	3**	50	0
California	317	36	25	5	4	1
Nevada	79	6	1	1	12	4
New Mexico	88	0	0	0	0	4
Texas	431	47	34	34	4	143
Utah	108	0	7	4	0	2

*Additional parameters that may be available in some locations include daily stage, daily streamflow, and other water quality parameters besides those listed in table.

** Two water quality stations in Arizona were unavailable when site was checked, and the third has been discontinued.

Source: waterdata.usgs.gov/nwis/rt

as “automatically collected, transmitted, and made available to the public at least once each day” (USGS, 2001); however, the data are typically transmitted every four hours. The number of monitoring stations and the parameters monitored at any given station vary considerably from state to state, as shown in the table above.

The real-time data are transmitted primarily by Geostationary Operational Environmental Satellite (GOES) telemetry, although land-line or cellular telephone modems and radio-frequency technology are used in some locations.

References

U.S. Geological Survey, 2001. *Real-Time Ground-Water Data for the Nation. Fact Sheet FS-090-01.*

U.S. Geological Survey, 2002. *NWISWeb: New Site for the Nation’s Water Data. Fact Sheet FS-128-02.*



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USGS real-time streamflow monitoring station at Sabino Canyon Recreation Area in Tucson, Arizona.