

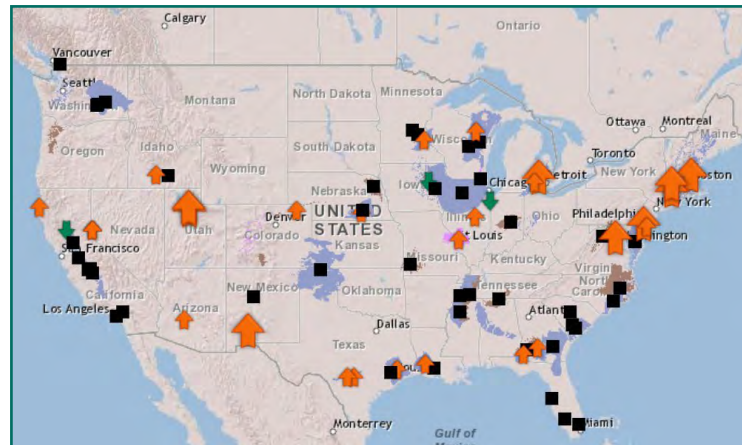
The U.S. Geological Survey National Water Quality Network—Groundwater 2023



USGS scientist sampling a monitoring well in an agricultural setting. Photograph by William Morrow, USGS.

The U.S. Geological Survey (USGS) operates a National Water Quality Network (NWQN) to monitor trends in groundwater quality and assess emerging contaminants of concern. It is a “network of networks” with 81 subnetworks being sampled on a decadal time scale. Each year, eight of the subnetworks are sampled. Subnetworks have 20–30 wells each and include studies of domestic supply wells or shallow groundwater (20–50 feet deep) underlying urban land use or agricultural land use. Currently there are 2,114 wells in the network.

The USGS NWQN includes thousands of locations where USGS staff collect groundwater quality samples from wells such as those shown in picture above in order to evaluate trends in groundwater quality across the nation.



EXPLANATION

Chloride from 2002–12 to 2013–22

- ▲ Large increase
- ▲ Small increase
- No significant change
- ▼ Small decrease
- ▼ Large decrease

Decadal scale changes in groundwater quality calculated from NWQN data. Map links to decadal mapper website. Figure taken from Lindsey, B.D., Johnson, T.D., Privette, L.M., and Estes, N.J., 2018, Decadal changes in groundwater quality: U.S. Geological Survey Web page, <https://nawqatrends.wim.usgs.gov/Decadal/>.

848

Wells in 33 subnetworks at the depth zone used for domestic supply

733

Wells in 29 subnetworks of shallow groundwater underlying agricultural land use

533

Wells in 19 subnetworks representing shallow groundwater underlying urban land use

For more information about the U.S. Geological Survey Water Quality Networks:
 Visit <https://www.usgs.gov/mission-areas/water-resources/observing-systems-division>
 Contact the [National Water Quality Network: Groundwater Coordinator](#)