

Groundwater Monitoring & Assessment Program

OWRB FACT SHEET

With approximately 386 million acre-feet of groundwater in storage, Oklahoma's aquifers provide enormous benefits for multiple uses, serving as water supply for thousands of municipalities, rural water districts, and industrial facilities. Groundwater resources supply approximately 90% of the state's irrigation needs, and around 8% of Oklahoma's citizens obtain their drinking water from private wells.

In 2012, due to a priority recommendation of the Oklahoma Comprehensive Water Plan (OCWP), the Oklahoma Legislature and Governor appropriated funding to initiate Oklahoma's first holistic, long-term, aquifer-based Groundwater Monitoring and Assessment Program (GMAP). This funding commitment fully recognized the importance of Oklahoma's groundwater resources and their susceptibility to depletion and pollution.

GMAP data will serve to determine a baseline of water quality and quantity against which future changes can be measured, establish beneficial use criteria for the State's groundwater resources, strengthen existing criteria, detect water quality and quantity trends, and promote more accurate groundwater use guidelines.

Assessments are being achieved utilizing a Water Quantity Measurement Network and a Water Quality Monitoring Network, each with a surveillance and trend component. These provide Oklahoma with detailed information on individual aquifer characteristics and a long-term assessment of any changes.

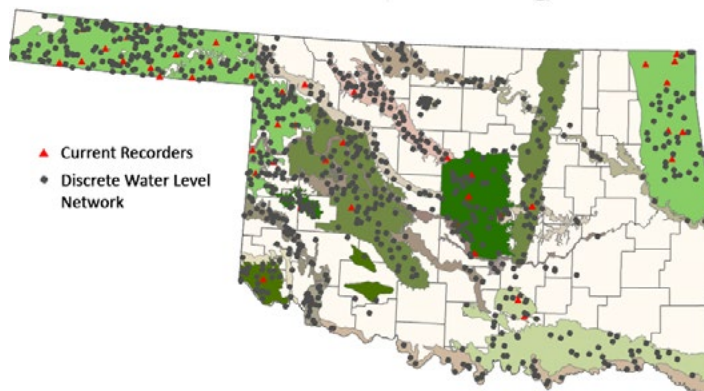
Data collected through the program will be made available to the public in various formats, including an online data portal, aquifer-specific reports, and an annual report as part of the Beneficial Use Monitoring Program (BUMP) report available on the OWRB website.

Water Quantity Measurement Network

GMAP has expanded the OWRB's historical annual water level measurement program into a water quantity surveillance network with roughly 850 wells spread throughout all the major and some minor aquifers of the state. This network allows both the aquifer and statewide responses to drought, flood, and water usage to be determined based on recorded baseline conditions.

The surveillance network also helps to anchor the trend network, which is made up of a much smaller number of continuous recorder sites (46 wells) that have been equipped with water level data loggers to monitor changes on the scale of weeks, days, or even hours. These

OWRB Groundwater Monitoring Network



continuous data can provide information in real time on statewide groundwater availability and aid in long-term planning and resource development. More data loggers are being added in the future to help fill gaps in the current network and to expand the network to about 80 sites.

Water Quality Monitoring Network

Water quality analyses allows for a better understanding of the natural geochemistry and geochemical functioning of the aquifers. The program's water quality surveillance network is sampled in its entirety every ten years as OWRB staff rotate through the major aquifers to collect and analyze data that provide a general characterization of regional groundwater quality and the condition of each aquifer. Water samples are taken from existing groundwater wells and analyzed for parameters such as nutrients, dissolved metals, alkalinity, hardness, dissolved oxygen, pH, and total dissolved solids.

A subset of wells from the water quality surveillance monitoring network are used for trend monitoring and are evaluated multiple times yearly. The trend program focuses on parameters of concern in any given aquifer with assessments of water level and chemistry facilitating recognition of seasonal changes, changes due to climate variability, and/or changes due to usage or land use drivers over time.

Visit the [OWRB website](http://www.oklahoma.gov/owrb) for more information on GMAP or to download groundwater data.



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