

Aquifer Mapping Program 2023

The hydrogeology program at the New Mexico Bureau of Geology (NMBGMR) is working to address the state's most relevant water questions—such as where can it be found, how much is there, and what is the quality of the water? We are unique because we are the only non-regulatory state agency engaged in this specialized, multidisciplinary water science and research. We are building upon a wealth of existing water information; adding new and innovative techniques and data, and ultimately providing the state with a better understanding of our water resources.



Collecting water quality samples from a spring near Embudo.

Rio Rancho



Ongoing research to define hydrostratigraphic units within the Santa Fe Group Aquifer supplying Rio Rancho.

High Plains



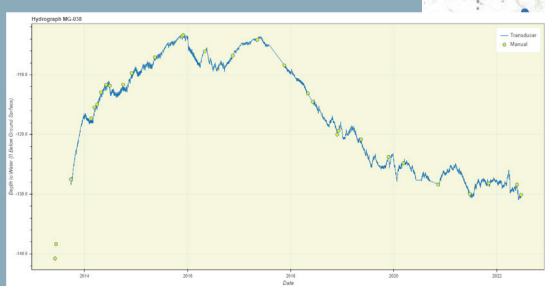
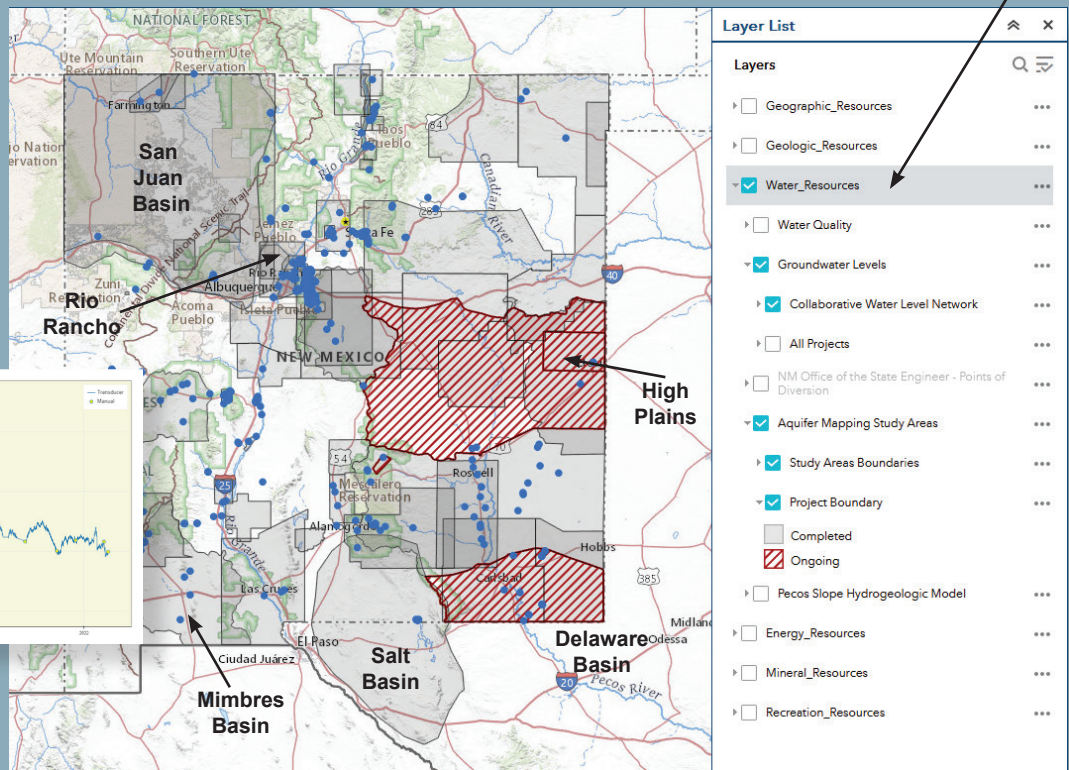
NMBGMR is working with Ogallala Land & Water Conservancy to measure groundwater in over 100 wells near Clovis.

Find Us Online

maps.nmt.edu

- From our webmap, find:
- Aquifer Mapping study areas with links to project reports (see QR codes)
 - Water quality data
 - Water level monitoring data (shown below)

Turn on the Water Resources layer to find our data:



Depth to water over time measured in a well in our Healy Collaborative Network (blue dots on the map are network wells)

Mimbres Basin



Snapshots of groundwater level changes across the Mimbres Basin from 1980 through 2020 in 5-year increments.

Salt Basin



This 2022 study examines the water budget of the Salt Basin including recharge, evapotranspiration, pumping, and agricultural use.

Delaware Basin



The Delaware Basin 3D hydrogeologic model is near completion. Find info on this model and completed basins using the QR code.

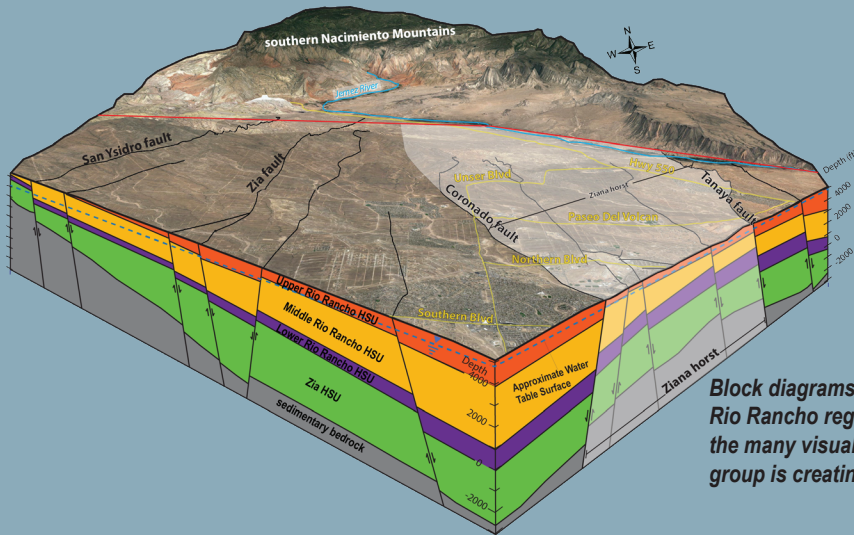
Aquifer Mapping - Statewide Programs

3D Hydrogeologic Modeling

The need for easily accessible information about our groundwater distribution and availability grows every year. NMBGMR is working to address this need through the development of 3D aquifer models that can be easily accessed through mapping software such as ArcGIS or Google Earth. These models are built by first creating the geologic layers in the region using well logs, cross sections, and surface geologic maps to create an accurate representation of the subsurface. With the geologic framework complete, the hydraulic properties such as porosity, permeability, water level, and water quality are added to the model to allow for calculations of aquifer thickness and recoverable volumes. This important work has



been supported by a variety of partners such as the Healy Foundation, the NM EMNRD Oil Conservation District, and the USGS STATEMAP program. Several models are complete and available, while many others are under development.



Block diagrams, like this one of the Rio Rancho region, are just one of the many visual aids the 3D modeling group is creating.

Healy Collaborative Groundwater Level Monitoring Network

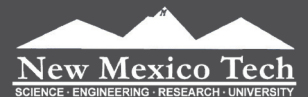


Measuring the depth to water in a well near Magdalena.

The Healy Collaborative Groundwater Monitoring Network was created in 2016 to better manage our groundwater resources in New Mexico. The goal of this network is to supplement existing groundwater level monitoring throughout the state by working with local well owners in regions with little to no current monitoring. This highly successful program includes over 140 water operators, citizens, scientists, and engineers that collect and maintain groundwater level information at over 700 locations. Through funding from the Healy Foundation, the USGS, and the Aquifer Mapping Program, NMBGMR staff visit more than 200 wells annually to measure depth-to-water and to install and maintain monitoring equipment. Contact us at nmbg-waterlevels@nmt.edu if you are interested in joining our network.



geoinfo.nmt.edu/resources/water/amp



New Mexico Bureau of Geology and Mineral Resources

The State Geologic Survey

A Research Division of
New Mexico Tech



We are a non-regulatory governmental agency (the state's geological survey) that conducts scientific investigations leading to responsible development of the state's mineral, water, and energy resources.

NM Bureau of Geology and Mineral Resources
801 Leroy Place
Socorro, NM 87801
(575) 835-5490 information