Southern Plains Network

RESOURCE BRIEF

National Park Service
U.S. Department of the Interior

Intermountain Region
Inventory & Monitoring Program

Capulin Volcano National Monument

Groundwater

Capulin Volcano National Monument's groundwater originates from the aquifer known as Capulin basin. Although the basin is not fully mapped, it is understood to cover at least an area 150 square miles to the north, south, and west of the monument. Groundwater provides fresh drinking water to visitors and local residents, as well as providing water to the vegetation throughout the monument. Groundwater is particularly important in this semi-arid region of New Mexico, since rainfall is so sparse. The demand for this precious resource will only increase, as the New Mexico Office of Engineers scientists expect that the state's population will nearly double to 3.68 million by 2060.

Status and Trends

United States Geological Survey scientists have developed a national network of water monitoring and have been monitoring three wells located in the Capulin basin since the 1950s. Water level and water level elevation are recorded for each well at least annually, and these data are used to assess the change in groundwater level. The data suggest that water level elevations (how far the water rises in the well) are declining, and that depths to the water are increasing in two of the three wells. The third well shows the opposite circumstance.

It is very possible that localized water level fluctuations occur depending upon a local area's ability to recharge by transmitting more water to the basin if precipitation is available or if demand for groundwater has declined within that area. There is also weak evidence suggesting a possible overall decline in the trend of groundwater level, but additional monitoring over the next several years will help to clarify this possibility.

Discussion

The most common livelihood surrounding the monument is ranching, which requires far less groundwater resource than that required for agricultural purposes. New Mexico water planning officials in the local counties surrounding the monument predict that groundwater supply will continue to meet local demand, provided populations do not drastically increase. Also land subsidence, a settling or sinking of the Earth's surface, and vegetation browning due to a reduction in groundwater, would suggest a significantly depleted aquifer but are not evident in the area.

NPS/MARK DOIRON

Capulin Volcano National Monument has only one known groundwater basin and no naturally occuring surface water.

Bennetts, R. E., K. Struthers, P. Valentine-Darby, T. Folts, H. Sosinski, and E. Yost . 2011. Capulin Volcano National Monument: Natural Resource Condition Assessment. Natural Resource Report NPS/SOPN/NRR—2012/492. National Park Service, Fort Collins, Colorado.

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http://science.nature.nps.gov/im/units/sopn/

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