

## **2021 Earth Science Week KUNM Radio Presentation: Kristin Pearthree**

Welcome to Earth Matters: Field notes on the Geology of New Mexico's Enchanting Landscapes. Celebrating Earth Science Week, I'm Kristin Pearthree.

Today we are going to talk about what's underneath New Mexico's enchanting landscapes. Groundwater! Water located underground, in cracks in rocks and spaces between grains of sand. But how much is down there? What happens if more water is pumped out of the ground than goes into it? Many rural communities and homes rely on a single well. What happens when the well goes dry?

This nightmare scenario happened to a well owner living at a ranch outside of the town of Magdalena. Nine years ago, their well suddenly went dry. With no water to supply the home and ranch, a new, deeper well was drilled that week, an expensive scramble in a crisis situation.

Groundwater level monitoring can help spot problems before they turn into crises. The Healy Collaborative Groundwater Monitoring Network is a program run by the New Mexico Bureau of Geology and Mineral Resources and funded by the Healy Foundation that monitors groundwater levels in wells across the state.

The depth to water in a well can be measured in a number of ways. It can be measured manually by professionals using special tools that dip into the groundwater in a well. In New Mexico, we have started using very modern devices that track acoustic data – sound reflections in a well - for real-time automatic monitoring of groundwater levels.

One of these acoustic devices is now installed on the new well at the ranch outside of Magdalena. As a participating member in the Healy Collaborative Groundwater Monitoring Network, they can now see the water level in their well daily. This provides advanced warning if groundwater starts declining, so they can focus on conserving water and reducing pumping, or, if necessary, finding a new water source.

Without monitoring, there's no way to know if there's a problem until it's a crisis.

Celebrating Earth Science Week, this is Kristin Pearthree, Research Scientist from the New Mexico Bureau of Geology at New Mexico Tech.