

Welcome to Earth Matters...field notes on the geology of New Mexico's Enchanting Landscapes. Celebrating Earth Science week, I am Stacy Timmons.

These days, it's common to think about our water quality ... but have you ever considered how *old* the water is?

Some of the groundwater that lies beneath the greater Albuquerque area is as much as twenty-thousand years old. During the Pleistocene Era, when this region was cooler and wetter, with animals like giant sloths and mammoths roaming the land, groundwater was recharged by rain and snow, glaciers, streams, and lakes. This groundwater, an ancient buried treasure, has been stored underground for thousands of years and now makes up a portion of the water that we drink!

Imagine the groundwater beneath Albuquerque – which is *not* a vast underground lake – but layers of sand, clay and gravel that hold water in the empty spaces between the grains. Some of the deeper layers are saturated with water that is very old, while shallow layers have younger water that is only a few decades old. Near the banks of the Rio Grande, the water is as little as 1 foot below the land surface, but in other places, like the West Mesa, it can be as deep as twelve-hundred feet – almost a quarter mile underground! Many wells in the Albuquerque area are mixing waters from both old and young layers of groundwater.

Consider this... During this 2-minute program, over one hundred and thirty thousand gallons of water will have been drawn from the aquifer! On average, in Albuquerque, more than one thousand gallons of water are used every second! That's at least 13 bathtubs filled every single second of the day! But the aquifer recharges much slower than this, so it's easy to see that Albuquerque's groundwater won't last forever. Our twenty-thousand year old fossil water is a buried treasure that must be carefully protected!

Celebrating Earth Science Week, I am Stacy Timmons of the New Mexico Bureau of Geology at New Mexico Tech.