

Welcome to Earth Matters: Field Notes on New Mexico's Enchanting Landscapes.
Celebrating Earth Science Week I'm Laila Sturgis.

The geology of New Mexico is stunning and diverse with rocks as old as 1.8 billion years and of all different rock types that you may remember from your introduction to earth sciences – igneous, sedimentary and metamorphic. All of our complex geology leads to some very interesting and dynamic groundwater aquifers. Here at the New Mexico Bureau of Geology, our team of hydrogeologists focuses primarily on mapping and characterizing these different types of aquifers across our state.

An aquifer can be hard to visualize, but there are several great everyday analogies such as: a wet, "sandy" sponge; or finding the right ratio of milk in your bowl of cereal; or maybe that iced cup of soda that you can "dry up" with your well-like straw.

Unfortunately, even these analogies overestimate how much water an aquifer holds. Aquifers are mostly rock material, with the tiny spaces between the individual rock grains filled with water. The water only takes up around 20% of the total volume in a sandstone aquifer, and can be as little as 5-10% in fractured granites.

At the New Mexico Bureau of Geology we are working to meet demand for up-to-date, digital aquifer maps. We do this by creating 3D comprehensive models that combine geologic maps with a wide range of water data. Our models are available for anyone to use at our interactive website (maps.nmt.edu). Aquifer maps are important as they can build our understanding of water quality and quantity, and inform decisions about how we want to use, conserve or protect our groundwater resources.

You'll hear more about New Mexico's water now and in the future from our team this week!

Celebrating Earth Science Week, this is Laila Sturgis, Aquifer Mapping Program Manager at the New Mexico Bureau of Geology at New Mexico Tech.