

Welcome to Earth Matters, field notes on the geology of New Mexico's enchanting landscapes.

The phrase "global climate change" tends to be a bit overwhelming, but what about the effect of climate change on your own state?

Over the past year, 8 of New Mexico's leading climate and water scientists were called together and asked to explore the impact of climate change on our state's water resources over the next 50 years.

The conclusion: the impact of climate change on New Mexico will be overwhelmingly negative.

The team reported that in response to increasing carbon dioxide in the atmosphere, average temperatures across the state will rise between 5 and 7 degrees Fahrenheit by the year 2070.

The net effect will be less surface water availability leading to an increased demand on already stressed groundwater aquifers.

Rising temperatures will increase rates of evaporation. Warmer air will steal moisture from surface water bodies, plants, and soils, decreasing surface water storage, killing off vegetation and drying out soils that took thousands of years to develop. Dehydrated soils are easily transported by wind, and deposited on mountain snowpack, causing earlier and more rapid melting.

Wildfires will continue to increase in frequency and intensity. Isolated and extreme rainfall events, could result in more floods, and set the stage for destructive debris flows. Every region of the state will experience a different version of these temperature driven cause and effect relationships and it is important that we are prepared.

This study will help the Interstate Stream Commission create a 50-year Water Plan for the state. A draft of this report is available on the New Mexico Bureau of Geology's Website.

For now, there's a lot individuals can do to address future water challenges, but much of it begins by acknowledging this reality as we work together to conserve and protect our limited water resources.

Celebrating Earth Science Week, I'm Amanda Doherty, Hydrogeologist from the New Mexico Bureau of Geology and Mineral Resources at New Mexico Tech.