Welcome to Earth Matters: Field Notes on New Mexico's Enchanting Landscapes. Celebrating Earth Science Week I'm Mark Leo-Russell.

When we talk about and study sustainability, we often have to collect and analyze lots of data. In my work at the New Mexico Bureau of Geology I am involved in a variety of geology-related data projects. We work with data gathered for water resources, critical minerals, rare earth materials, oil and gas, earthquake activity, and laboratory analyses. Data are the life blood of scientific research. Historically we collected data using pencil and paper and manually calculated and analyzed the numbers. With modern technologies much of the data are recorded, stored and manipulated digitally using computers, tablets and smart phones. We also use data gathered by satellites, drones, seismic sensors, and other instrumentation.

The fun and interesting part of our scientific investigations are processing the data into useful information such as charts, graphs, maps, and other visualizations. From these we can prove or disprove our hypotheses and present our findings to fellow scientists and to the public at large.

At New Mexico Tech we tend to focus our work on geological investigations within New Mexico but we work with data provided by our sister agencies from other states and national data from the US Geological. Global data collections are available from the United Nations and other international organizations.

With the multitude of data available for sustainability studies and our modern tools for analyses, it is indeed a very exciting time to be an earth scientist and a data scientist.

Celebrating Earth Science Week, this is Mark Leo-Russell, Database Administrator and Geologist from the New Mexico Bureau of Geology and Mineral Resources at New Mexico Tech.