

**Title:** Characterizing Dust From Major Dust Sources Using Dust Flux Measurements, Isotopic Finger-Printing, and Major and Trace Element Analysis

**Abstract:** Dust storms are meteorological events that can transport particulate matter from their source to the Wasatch Front. These dust events are known to negatively impact human health, but not much is known about the chemical composition of the dust or the major dust sources throughout Utah. The Great Salt Lake, Sevier Dry Lake, and other playas have been identified as significant dust sources in past studies through isotopic fingerprinting. Our purpose is to characterize and quantify the contribution of dust from additional locations throughout Utah using isotopic and chemical data. Using MWAC dust samplers, we'll sample alfalfa fields, degraded rangelands, oil and gas fields, alluvial fans, and additional playas to better understand how land use affects dust flux and chemistry. We expect dust flux to vary with climate, land use, and season, with chemistry varying due to local geology and land use type. Understanding how dust mobilizes and behaves will help us better mitigate dust hazards in Utah moving forward.