

Dust transported from dry lake beds have a significant impact on human health, water quality, and snowpack conditions. Climate changes and water diversions in Utah have increased the amount of dust generated by Sevier Dry Lake and Salt Lake dry lakebed. To better understand the effects of dust storms on ambient air quality along the Wasatch Front, a combination of dry deposition and wet deposition were collected over multiple years. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios were measured in dust samples to distinguish dust from Sevier Dry Lake (0.710) and Great Salt Lake dry lakebed (0.715) from urban dust sources. Most $^{87}\text{Sr}/^{86}\text{Sr}$ ratios range between 0.715 and 0.710 however, a few outliers fall between 0.708 and 0.710 suggesting an additional Sr source. Known dust sources are playas with high concentrations of Ca, Na, Li, and Mg, and urban dust high in As, Cd, Fe, Mo, Pb, and Tl. Playa input increases during dust events which occur spring and fall. Urban input increases during winter with the greatest concentration increases at the $\text{PM}_{2.5}$ size fraction. Spikes in B, Cr, Cu, K, and Sr around 4th of July and New Years suggests fireworks influence $^{87}\text{Sr}/^{86}\text{Sr}$ ratios. Additional sources of dust and Sr need to be identified to better understand the effects of dust on ambient air quality.