**The Utah Dust Database: A meta-analytic approach to evaluating human and environmental exposure risks**

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Poor air quality from local pollution sources and dust storms present a threat to the health of Utah residents. The urban corridor along the Wasatch Front experiences intense dust storms, causing concentrations of PM10 in Salt Lake County, Utah County, and the City of Ogden to exceed national standards. This issue has prompted a rich body of research by local and regional dust scientists. Major topics of research include the influence of the shrinking Great Salt Lake on air quality along the Wasatch Front, how that dust may contribute to enhanced snowmelt and changing water resources, and whether the composition of dust from the dried lakebed contains heavy metals or is altered by industrial and urban emissions.

A substantial amount of regional dust geochemistry data are already publicly available, but have yet to be compiled and compared spatially, temporally, or methodologically. Collecting and organizing published and unpublished data from the regional dust research community will illuminate areas of strength with regard to study locations, time periods, and particle size classes, providing direction for filling gaps in the characterization of dust and dust exposure across Utah. We also anticipate that the development of this relational database will promote standardization of metadata and of sample collection and laboratory methods.

Here, we introduce the blueprint for a comprehensive, open-access compilation of regional biological, physical, and geochemical dust data. This database will support data discovery, preservation, and sharing within our research community, and may be the basis for future projects that develop air quality solutions. Our presentation will outline the initial structure and tools used to build the database, and we encourage data submissions and feedback from colleagues.