

Abstract Submitted  
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**Investigating PM<sub>2.5</sub> Sources in Salt Lake City during Persistent Cold Air Pool Events** CESUNICA IVEY, HEATHER HOLMES, University of Nevada Reno, SIVARAMAN BALACHANDRAN, University of Cincinnati, YONGTAO HU, ARMISTEAD RUSSELL, Georgia Institute of Technology — During wintertime, valley and basin towns often experience temperature inversions, where atmospheric conditions become very stable and the valley floor is colder than the air aloft. This meteorological condition is known as a cold air pool (CAP) event. Salt Lake City has particularly special CAP events due to the large number of air pollutant sources in the valley, leading to tremendous build-up of pollution during the CAP event. The CAP events are identified for January 2007 in Salt Lake City, and the dominant pollution sources are identified and aerosol formation pathways are discussed. A data assimilation model is also applied to the modeled air pollutant concentrations, and the discrepancies between the model and ground observations are reduced.

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