

Advancing the Capabilities to Predict the Atmospheric Burdens of Dust and its Impacts on Air Quality, Weather and More

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Aerosols play an important role in air quality, weather, climate and more. Mineral dust is an important atmospheric aerosol component that contributes to poor air quality by its mass in small particles and by heterogeneous reactions on its surface. It also influences weather and climate through its perturbation of solar radiation during episodic dust events. Increased efforts are underway to better represent dust in air quality, weather and climate predictions and projections. In this paper illustrative examples are presented. These will draw upon new results from: the Model Intercomparison Study (MICS); the WMO Sand and Dust Storm Warning Advisory and Assessment System; and on-going studies of the role of aerosol in impacting short terms and seasonal to sub-seasonal weather.