

Modeling of Gas-Aerosol Processes during MIRAGE-Mex

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Significant gas-aerosol interactions are expected in the Mexico City outflow due to formation of various semi-volatile secondary inorganic and organic gases that can partition into the particulate phase. Our modeling studies will try to elucidate the roles of various chemical and physical processes in the evolution of the primary aerosol particles emitted in Mexico City, with a focus on secondary organic aerosol. Extensive gas, aerosol, and ancillary measurements onboard aircraft and ground sites will be used to initialize, constrain, and evaluate a detailed version of the Model for Simulating Aerosol Interactions and Chemistry (MOSAIC) that simulates the equilibrium phase-state, water content, and dynamic gas-particle partitioning for size-resolved aerosols.

(www.pnl.gov/atmos_sciences/raz/research/mosaic.html)