

## **Megacity Aerosol Experiment: Mexico City (MAX-Mex) - Overview**

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Tropospheric aerosols are important actors in the radiative balance of the globe. Submicron aerosols are of particular interest as they can scatter and absorb solar radiation. The forcing will depend on their chemical composition and size, their lifetimes, and position in the atmosphere and can be either positive or negative. This depends on the relative amount of scattering to absorption. Major sources of aerosols are now coming from megacity centers (>10 million population). As part of the MILAGRO campaign, the Megacity Aerosol Experiment: Mexico City (MAX-Mex) was conducted by the Atmospheric Science Program of the Climate Change Research Division of the Department of Energy in collaboration with scientists supported by NSF, NASA, and Mexican agencies. The preliminary results of the study will be overviewed and highlights of the efforts from both ground based and airborne measurements presented. Data from the study confirm that the megacity plumes are significant sources of both primary and secondary aerosols into the regional scale, and black carbon and secondary aerosols are contributing to single scattering albedos in the Valley of Mexico and downwind that are substantially reduced when compared to other areas (such as the eastern United States). The potential of biomass burning as well as megacity plumes contributing to a decrease in the aerosol single scattering albedos (aerosol direct effects) on regional scales will be discussed.

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