Analyses of Long-Range Transport from Mexico City

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A major goal of NASA's DC-8 aircraft during Milagro was to sample the outflow plume from Mexico City at various locations downwind. Using trajectories, Flexpart, and other forecast data, the DC-8's flight tracks were designed to intercept the Mexico City plume at locations over the Gulf of Mexico and the Pacific Ocean. At this point it is not clear that the DC-8 was entirely successful in this objective.

This poster will describe results of backward trajectories from the DC-8 during Milagro. Data from NCEP's GFS model are used to create the trajectories at 1 min intervals along the flight tracks. We will present statistics showing how often the DC-8 sampled air originating over Mexico City. These statistics will include the altitude at which the aircraft was flying when interception occurred, the altitude of the intercepted parcel when it was over Mexico City, and the distance and time required for the parcels to travel from Mexico City to the DC-8. If the merged DC-8 chemical data are available in time for our analyses, the chemical signature of the Mexico City plume at various locations will be compared to that of the environmental air.