Observations at Tenango de Aire I (meterorology)

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Regional air quality modeling for the Mexico City basin suggested that MCMA plume may sometimes drain through the Chalco Valley south to Cuautla and Cuernavaca. The MCMA-2006 field campaign offered the opportunity to study the characteristics and importance of that type of basin ventilation, in addition to the ventilation towards the north east, the main focus of the campaign. A mobile monitoring lab was placed at the Tenango del Aire town, a unique site located in this geographical area appropriate to characterize air masses traveling from and to the MCMA via the Chalco Valley. O_3, CO, NO_x, NO_y global and UV radiation and MLH were measured continuously during the field experiment starting on March 02 until April 06, together with other chemical species (VOC, HCHO, HONO, H_2O_2) please add here what else!). Backward and forward trajectories were calculated for the site using MCCM in the prognostic mode. Measured data are now being compared with specific MCCM runs in a diagnostic mode to analyze the southerly air pollution drainage from the Mexico basin. In general, we observed the clear dominance of two flow patterns: one in the north-south direction well associated with high levels of primary pollutants and ozone; and in the south-north direction typically associated with lower levels of both primary and secondary air pollutants. Preliminary results suggest that the back and forth movements of air masses through the Chalco Valley (Tenango del Aire –Amecameca area) is an important process in regional transport of air pollution between the Cuautla/Cuernavaca area and the Mexico City basin.