



Analysis of observations and modeling of criteria pollutants and photochemical age indicators during MILAGRO at Tenango del Aire

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We report measurements and modeling results from the mobile air quality monitoring unit and other instruments in Tenango del Aire (TA). Tenango del Aire is a small town in the mountain pass between the Sierra de Chichinautzin and the Popocatepetl and Iztachiatl Volcanos. The pass joins the Valley of Mexico and the Valley of Cuernavaca. TA was the most sheltered and equipped site on that flank of MILAGRO.

We compare model results and measurements of O₃, NO_x, NO_y, CO, SO₂, CH₂O, mixing height and some VOC speciated analysis. Indicators of photochemical age as O₃/CO, NO_y/CO, are also reported. Mean hourly averages for all the campaign are reported. Specific episodes are also analyzed in depth. Evidence of a polluted regional background atmosphere is shown.

The basic average surface transport pattern was as follows, from 09:00 to 12:00 winds from the north arrive to TA bringing fresh polluted parcels from the highly populated southeast parts of the MCMA. Between 12:00 and 13:00 hours a shift of wind direction brings back those or parts of those parcels and parcels farer away. Most of the times, this conditions continues until next morning when for few hours air again drains south from the valley of Mexico. Ozone reaches a maximum value between 12:00 and 13:00, and these values stay still until after 18:00. Average value of this plateau is 80 ppb. During this plateau indicators as O₃/CO and NO_y/CO show that air parcels passing over TA are photochemically aged.