

Formaldehyde Surface Distributions and Variability in the Mexico City Basin

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Abstract: Formaldehyde ambient air mole fractions were measured throughout the dry season in March at three different locations in the Mexico City basin. The continuously running instruments were operated at Tenago del Aire, a site located in the Chalco valley in the southern venting area of the basin, at the Instituto Mexicano del Petroleo (IMP) in the northern part of the city and about 30 km north of the city at the campus of the Universidad Tecnológica de Tecamac (UTTEC). The technique used is the Hantzsch technology with a time resolution of 2 minutes and a detection limit of 100 ppt. Daily maxima peaked at 35 ppb formaldehyde in the city and about 15 to 20 ppb at the other sites. During night formaldehyde levels dropped to about 5 ppb or less. It is evident that the observed spatial and temporal variability in near surface formaldehyde distributions is strongly affected by local and regional advection processes.