

Missing figure – please consider the following update for Figures 5 and 6

The original Figure 5 did not appear in the manuscript, and as a consequence Figures 5 and 6, and their legends are incorrect. Please consider the following updates for the review of the paper:

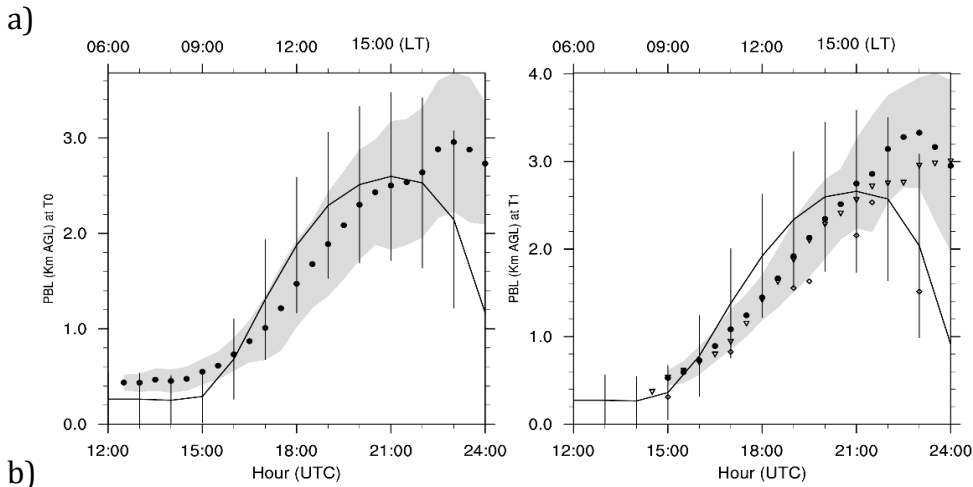
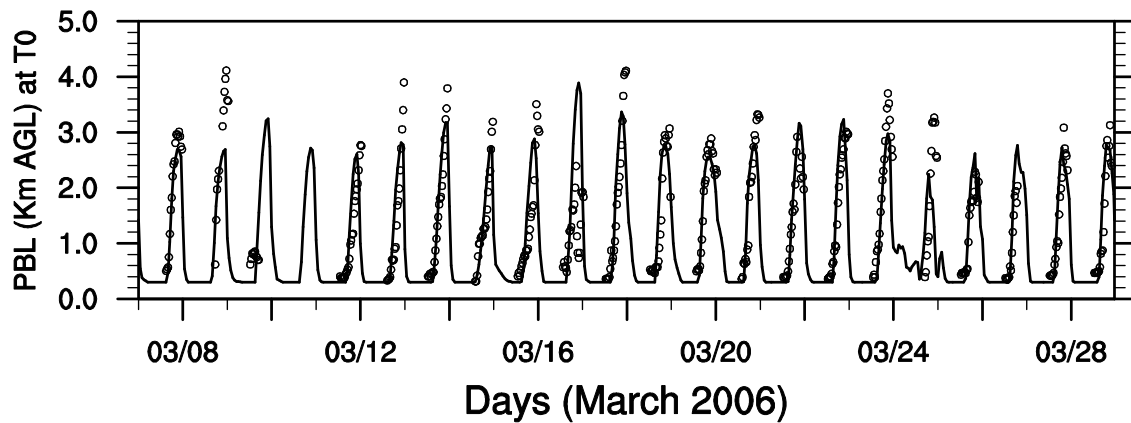
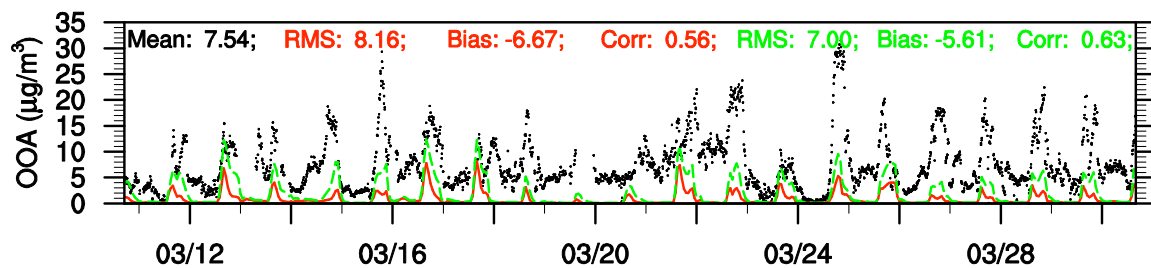
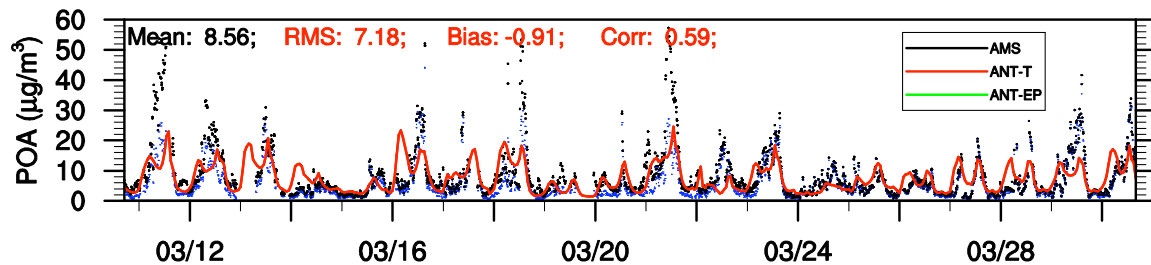
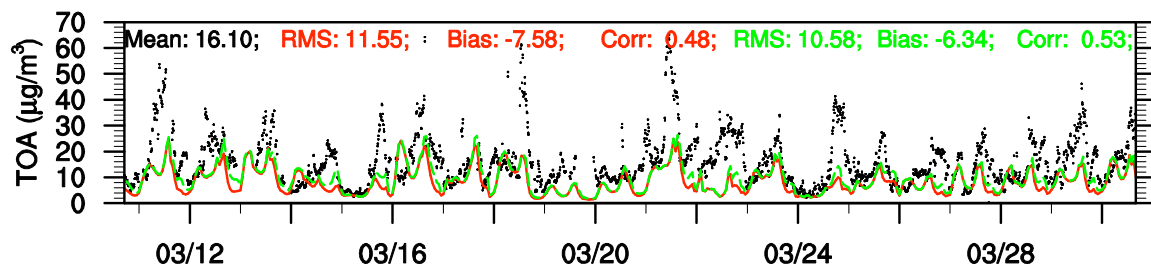


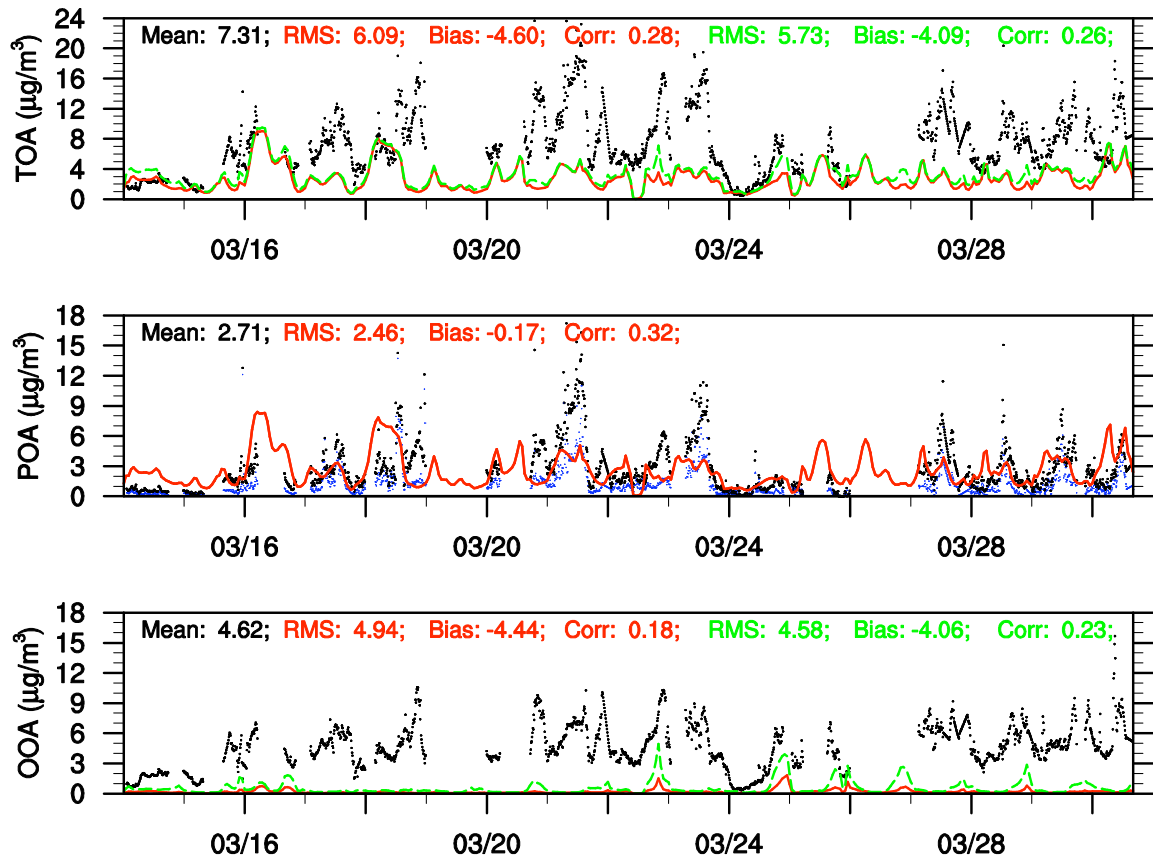
Figure 5: Planetary boundary layer heights (PBLH) at the urban T0 site (a) as predicted by CHIMERE (full line) and observed by the radar wind profiler (dots). Daily averaged PBLH profiles are also displayed (b) for the T0 urban site (left panel), and the T1 near-urban location (right panel). Model predictions and variability are indicated by black solid line and vertical bars, while radar wind profiler observations and their variability are represented by black dots and shaded area. For T1, observations from radio soundings (diamonds) and lidar data (triangles) are also plotted when available. The 24 and 25 March undergo unstable, cloudy weather conditions. The correspondence with the local time (LT = UTC - 6h) is indicated on the upper x-axes of the diurnal profile plots.

a) Mexico-City T0: 19.488N,-99.147W



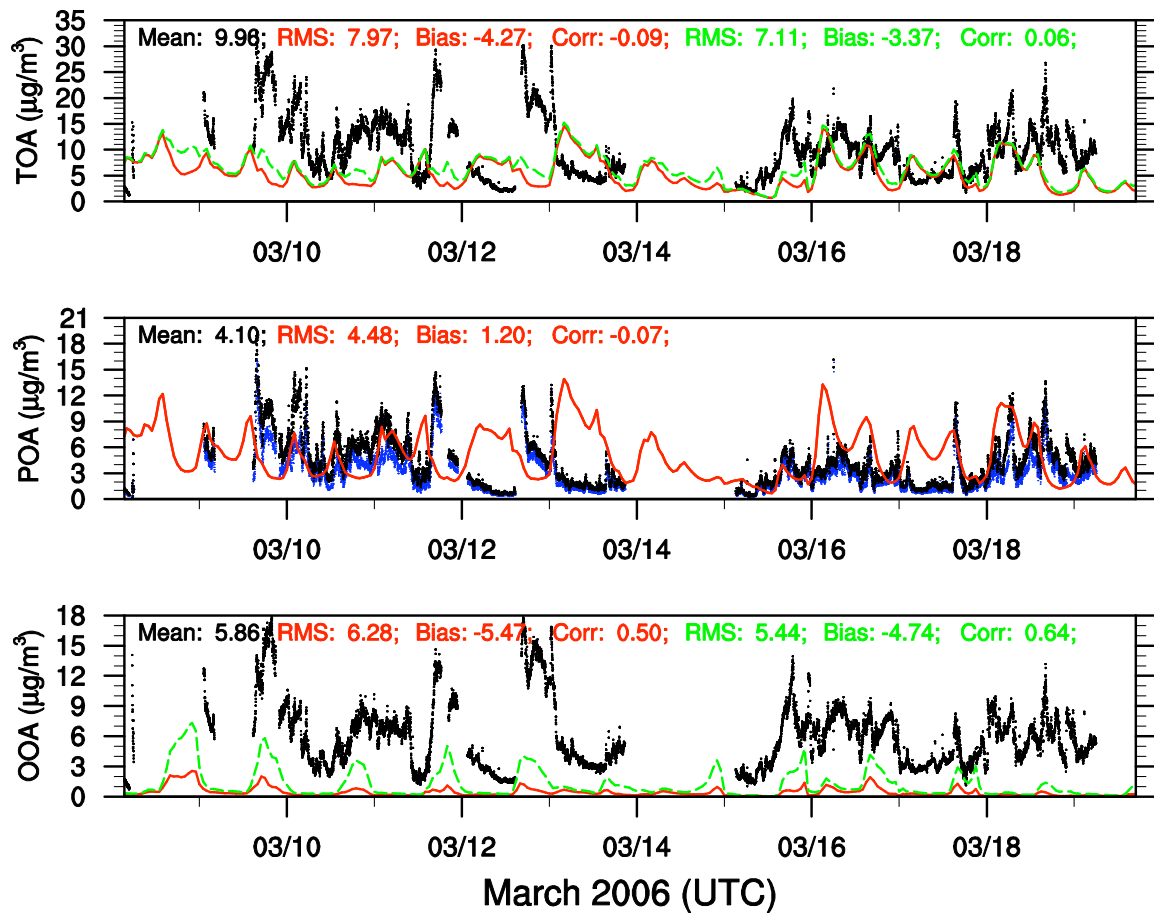
a)

b) Mexico-City T1: 19.703N,-98.982W



b)

c) Mexico-City PTP: 19.5913N,-99.115W



c)

Figure 6: Time series of modeled and observed surface concentrations ($\mu\text{g m}^{-3}$) of various carbonaceous compounds including total organic aerosol matter (TOA), primary organic aerosol (POA) and oxygenated organic aerosol (OOA). Comparison is made at the (a) urban site T0, and two near-urban sites (b) T1 and (c) PTP during the MILAGRO experiment. Black dots stand for observations, the red solid line for the ANT-T model run that accounts only for anthropogenic SOA precursors, and the green dashed line for the ANT-EP model run that examines the sensitivity to the enhanced partitioning towards aerosol phase. On the POA panel, black dots account for the measured POA from both anthropogenic and biomass burning sources, while blue dots indicate the primary organic mass that excludes organics generated by biomass burning emissions. Model results shown on the POA comparison panel includes also primary organic aerosols from biomass burning.