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Supplement of

Tropospheric NO_2 vertical profiles over South Korea and their relation to oxidant chemistry: implications for geostationary satellite retrievals and the observation of NO_2 diurnal variation from space

Laura Hyesung Yang et al.

Correspondence to: Laura Hyesung Yang (laurayang@g.harvard.edu)

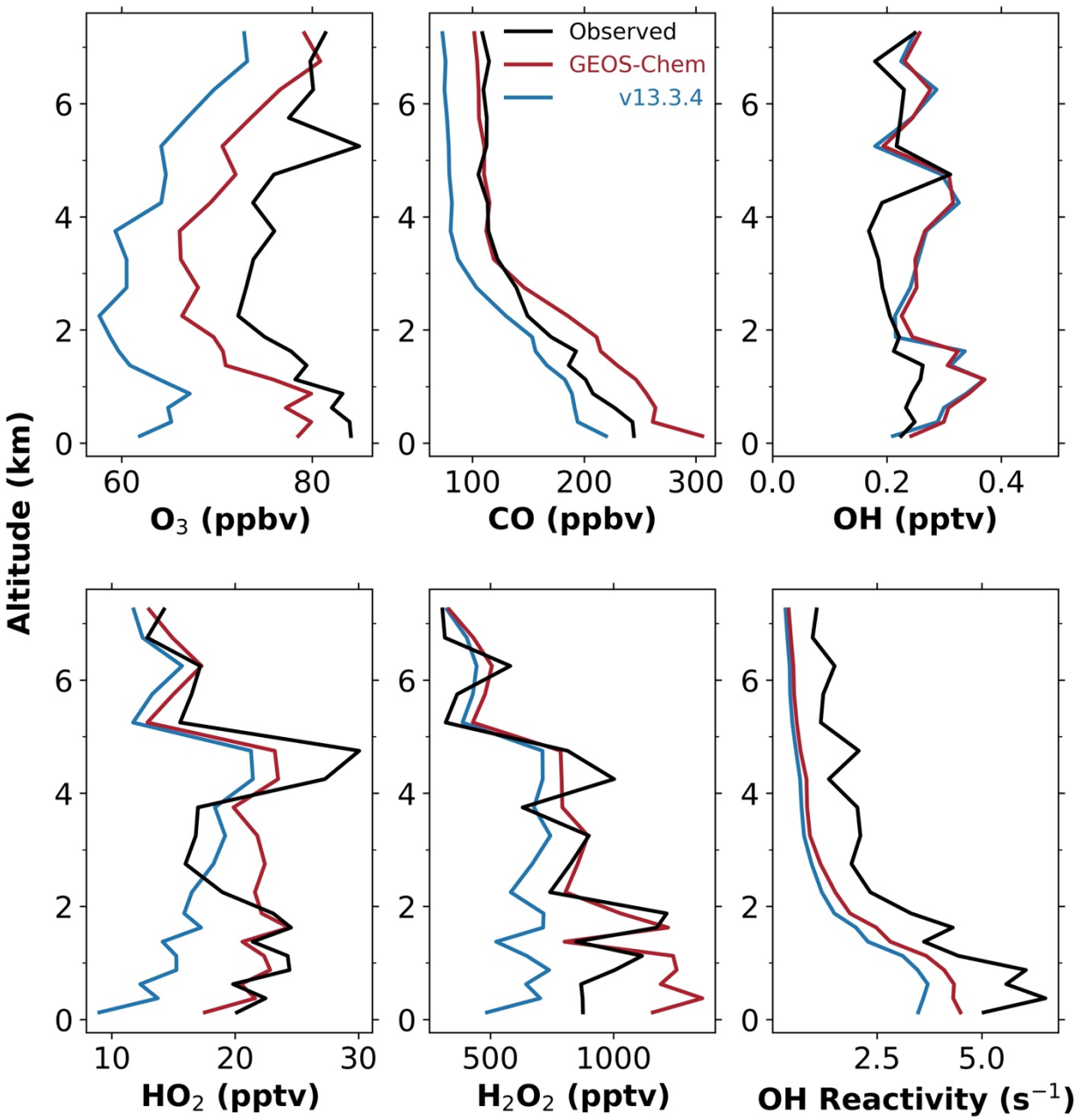

Figure S1. Median vertical profiles of species concentrations and OH reactivity (OHR) in the non-SMA (outside of the SMA domain which is 37 – 37.6°N, 126.6 – 127.7°E) during KORUS-AQ. Aircraft observations are compared to our GEOS-Chem simulation and the standard version 13.3.4 of the model.

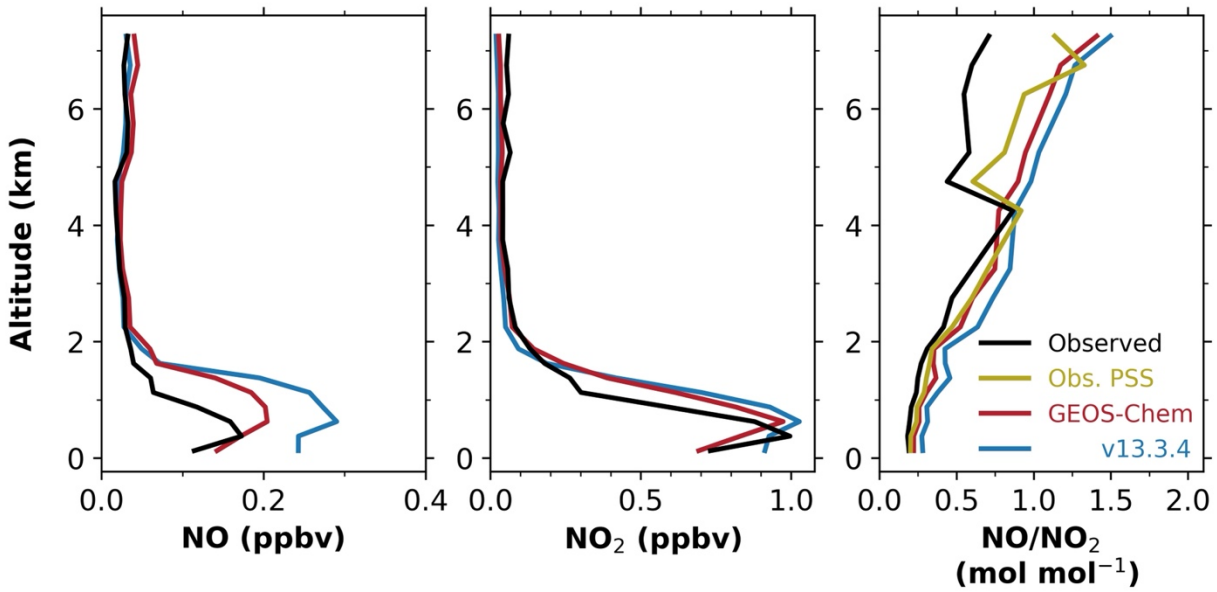

Figure S2. Median vertical profiles of NO and NO_2 concentrations, and NO/NO_2 molar concentration ratios in the non-SMA (outside of the SMA domain which is 37 – 37.6°N, 126.6 – 127.7°E) during the KORUS-AQ campaign. Observations are compared to our GEOS-Chem simulation and the standard version 13.3.4 of the model. PSS for the NO/NO_2 ratio denotes a photochemical steady state as given by equation (4) and is computed mainly from observations. Observed ratios are computed only if both species are more than 2× above the limit of detection.