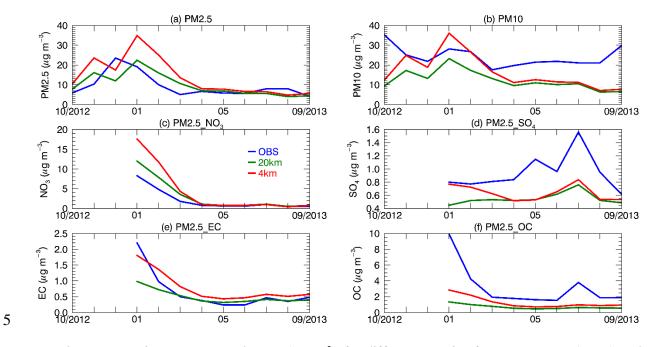


Supplementary Figure 1. Aerosol mass ( $\mu g m^{-3}$ ) for different species from EPA CSN (OBS), 20km and 4km simulations at Bakersfield, CA. PM2.5\_NO<sub>3</sub> represents NO<sub>3</sub> with diameter  $\leq 2.5 \mu m$ . Similar definition for SO<sub>4</sub>, EC and OC in the figures.



6 Supplementary Figure 2. Aerosol mass (µg m<sup>-3</sup>) for different species from EPA CSN (OBS), 20km

7 and 4km simulations at Modesto, CA.