Supporting Information for "Influence of convection on the upper tropospheric O_3 and NO_x budget in southeastern China"

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Contents of this file

Figure S1. to S5.
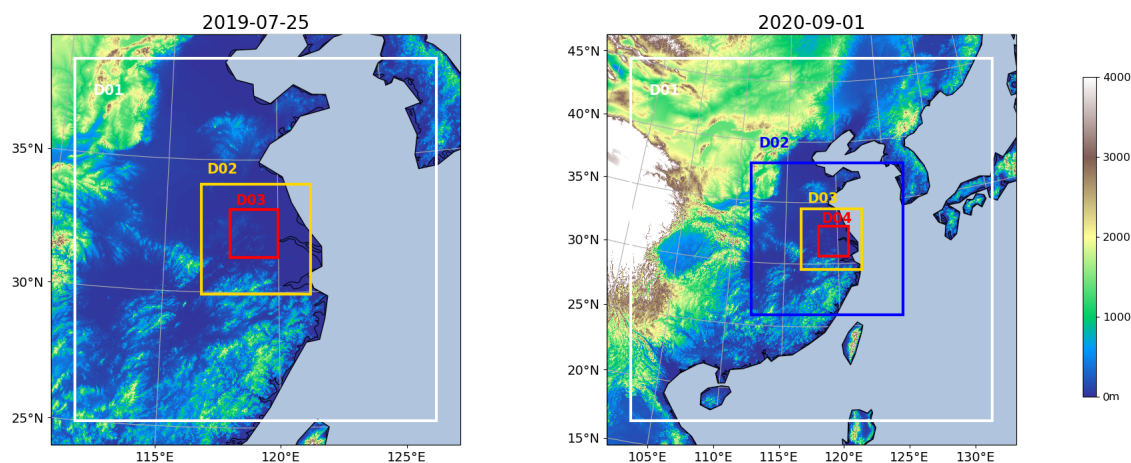
Figure S1. Domain and terrain height (m) of the WRF-Chem simulation for the 2019 and 2020 case. The horizontal grid resolution of domains for the 2019 case is 15 km (D01), 3 km (D02) and 0.6 km (D03). For the 2020 case, it is 27 km (D01), 9 km (D02), 3 km (D03), and 1 km (D04).
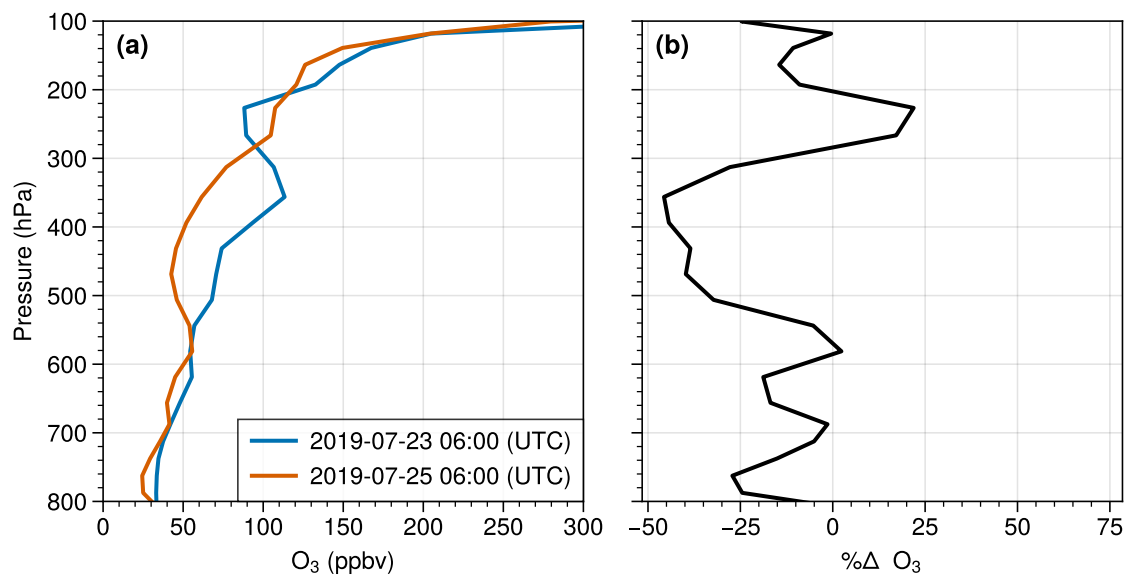
Figure S2. (a) Regional mean (118.5°E – 119.5°E, 31.5°N – 32.5°N) preconvection (blue) and postconvection (orange) O_3 profiles from the WACCM forecasts. (b) The percent difference of O_3 profiles in (a).
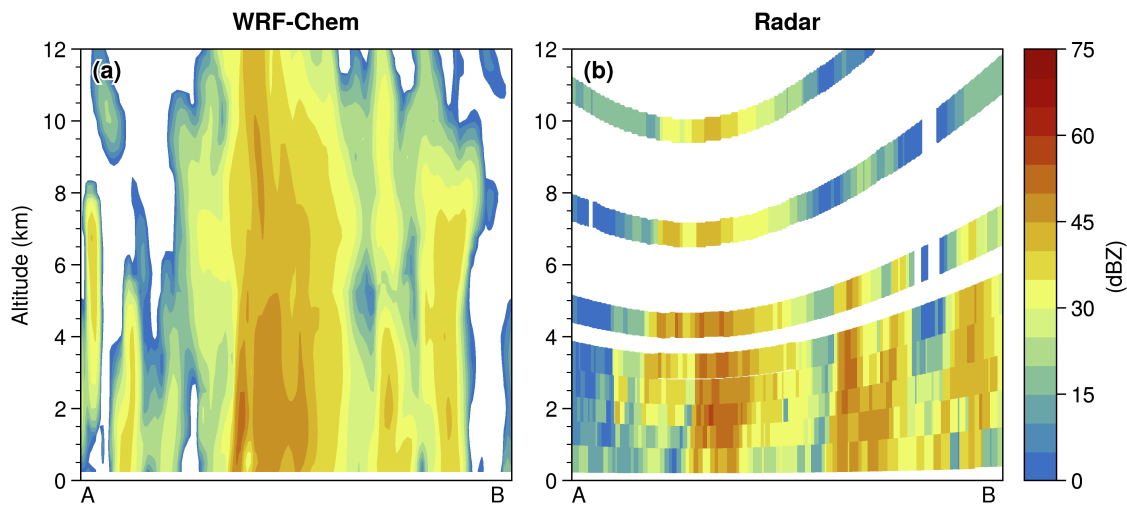
Figure S3. Vertical cross sections of (a) WRF-Chem simulated and (b) observed radar reflectivity fields along the transect lines (AB) in Fig. 2.
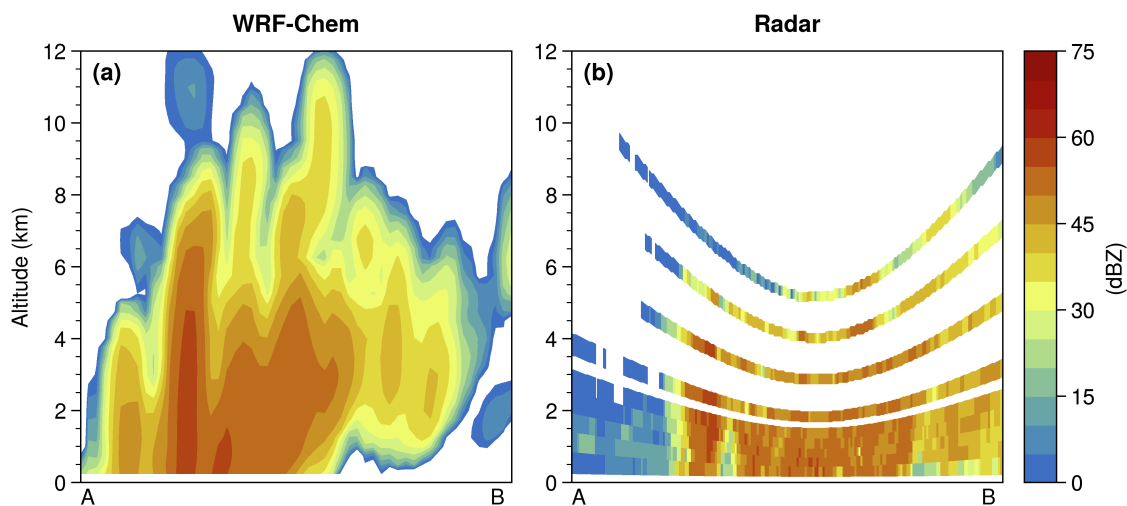
Figure S4. Same as Figure S3 but for the case on 01 September 2020.
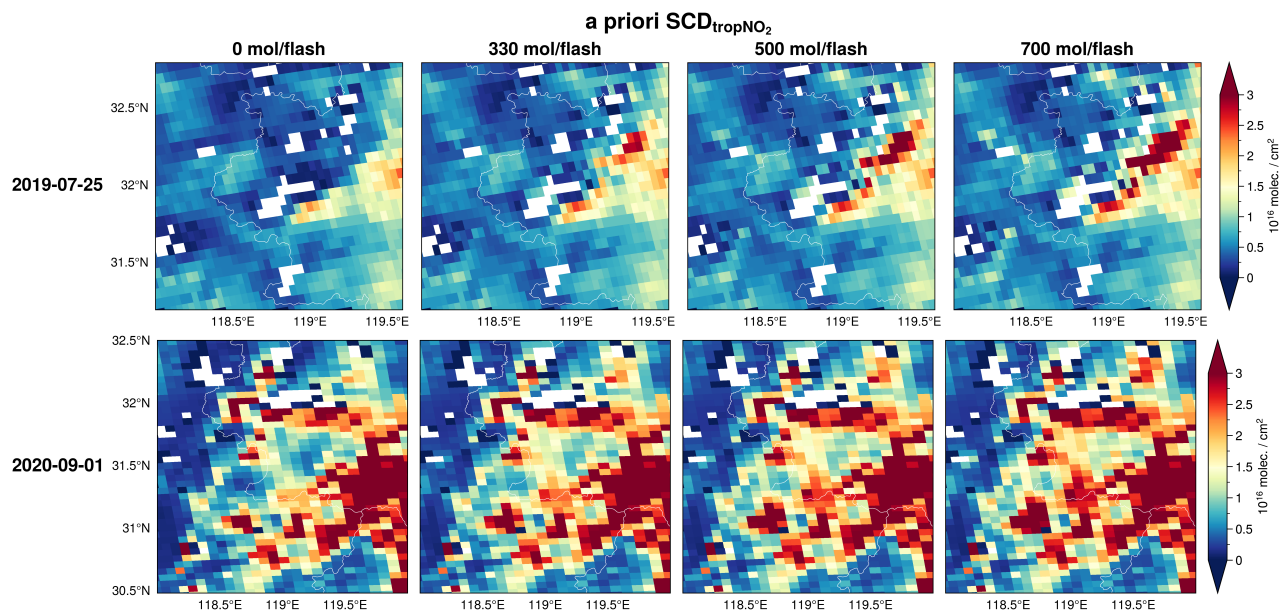
Figure S5. The tropospheric NO_2 slant column density (SCD_{tropNO_2}) recalculated using the WRF-Chem results with different lightning NO settings: (a) 0 mol/flash, (b) 330 mol/flash, (c) 500 mol/flash and (d) 700 mol/flash.