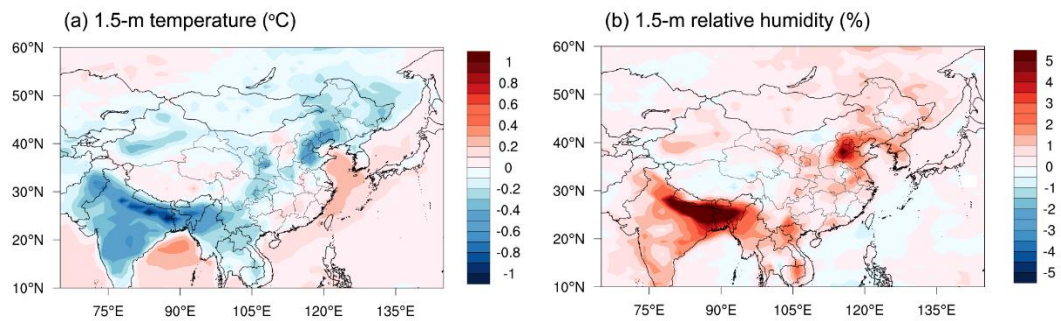
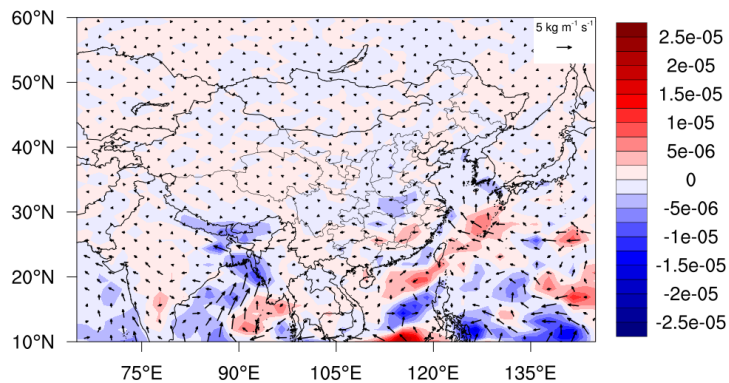


*Supplement of*

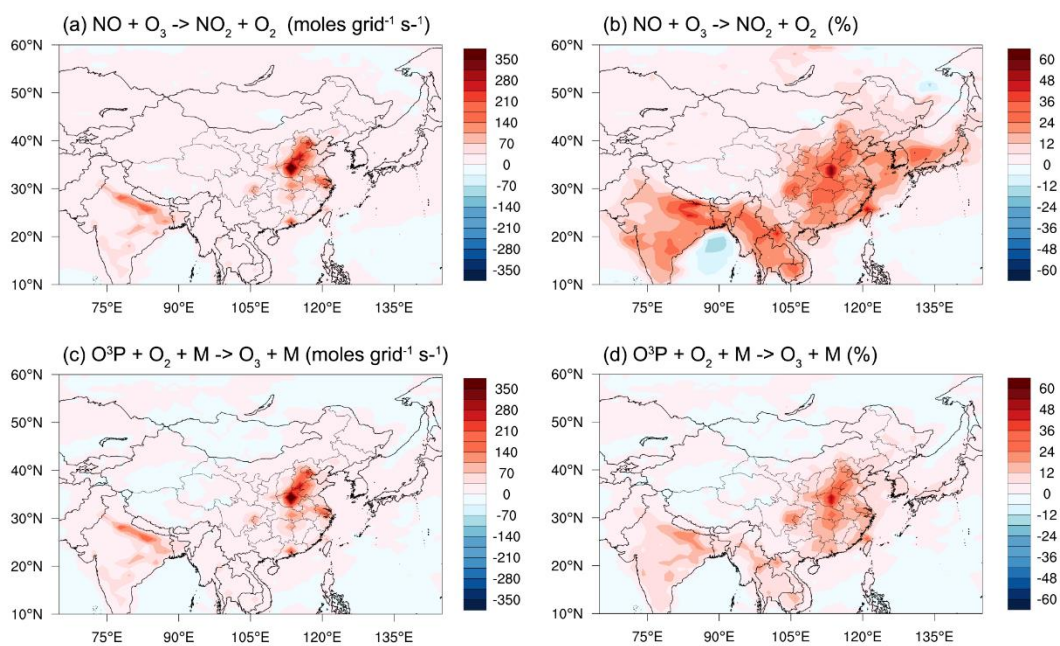
## **A study of the effect of aerosols on tropospheric ozone through meteorology feedbacks over China**



**Supplementary Figure S1: Changes in (a) temperature at 1.5 m (°C) and (b) relative humidity (%) at 1.5 m due to aerosol direct radiative effect. Differences are calculated as the annual mean of  $EXP_{\text{radon}}$  minus  $EXP_{\text{radoff}}$ .**



**Supplementary Figure S2: Changes in annual mean total column horizontal water vapor flux (vector) and its divergence (shadow) due to aerosol direct radiative effect. Differences are calculated as the annual mean of  $EXP_{\text{radon}}$  minus  $EXP_{\text{radoff}}$ .**



**Supplementary Figure S3: Changes in reaction flux due to aerosol direct radiative effect, (a,b) O<sub>3</sub> loss: NO + O<sub>3</sub> -> NO<sub>2</sub> + O<sub>2</sub>; (c,d) O<sub>3</sub> production: O<sup>3</sup>P + O<sub>2</sub> + M -> O<sub>3</sub> + M. The left panels show the reaction flux changes in moles grid<sup>-1</sup> s<sup>-1</sup>, which are calculated as EXP<sub>radon</sub> minus EXP<sub>radoff</sub>. The right panels show the percentage changes, which are calculated as (EXP<sub>radon</sub>-EXP<sub>radoff</sub>)/ EXP<sub>radoff</sub>.**