Supplement of

Benefits of Net Zero policies for future ozone pollution in China

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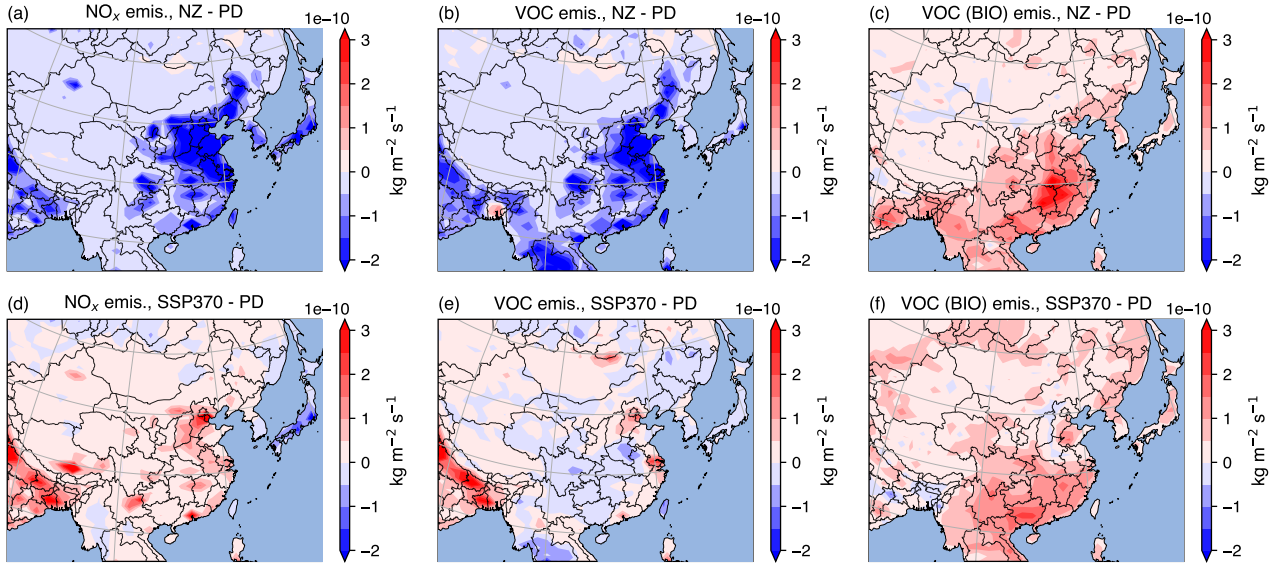

Figure S1. Differences in annual mean surface emissions in anthropogenic and biomass burning NO_x, VOCs, and biogenic VOCs (BIO) between the present day (PD) and the scenarios of Net Zero (NZ; **a, b, c**) and SSP3-7.0 **(d, e, f)**.

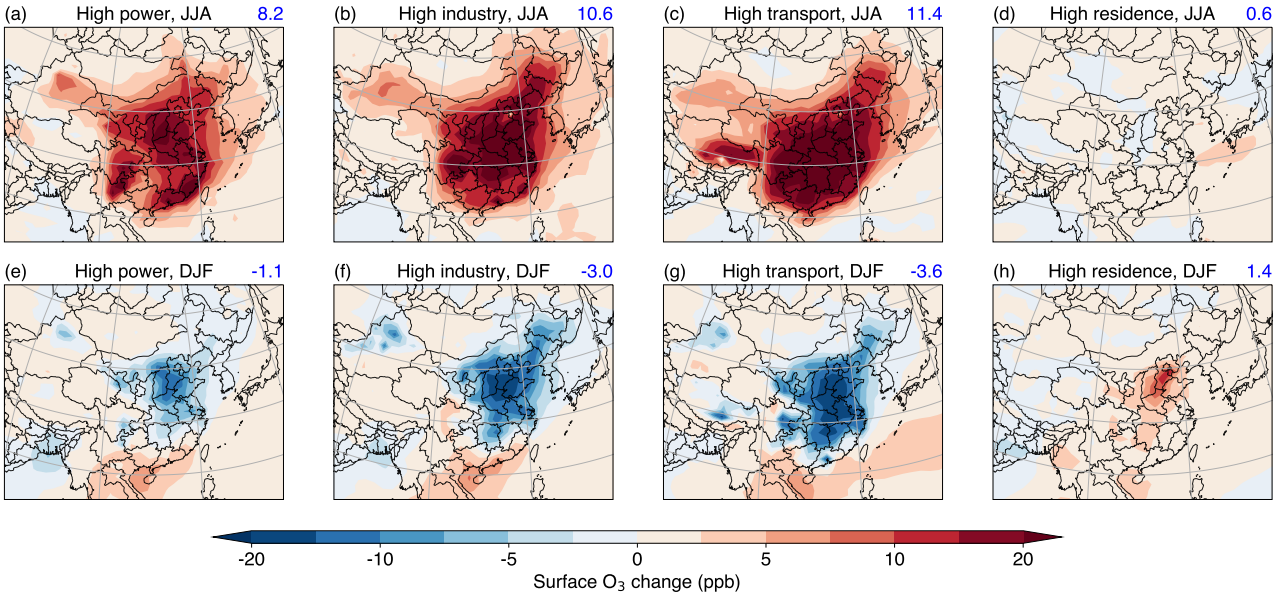

Figure S2. Changes in seasonal (JJA and DJF) surface O_3 mixing ratios between the scenario of Net Zero and SSP3-7.0 (SSP3-7.0 – Net Zero). Influences of higher emissions in different individual sectors, **(a, e)** power, **(b, f)** industry, **(c, g)** transport and **(d, h)** residence on surface O_3 changes are shown separately. Mean O_3 changes over China are given in the top right corner.

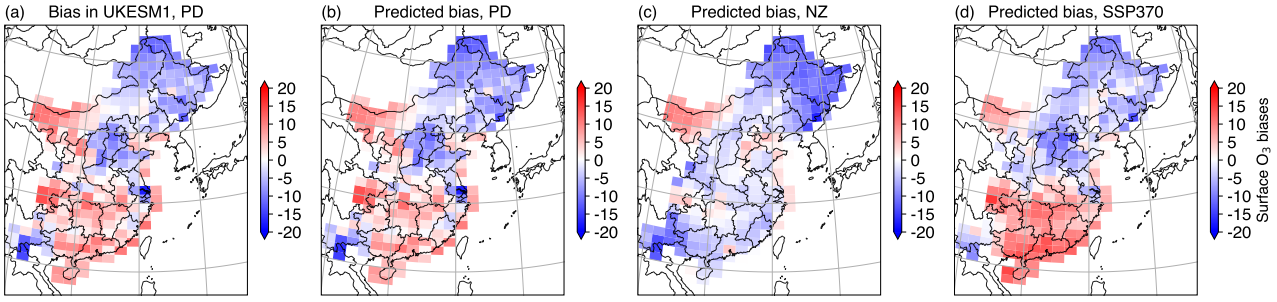

Figure S3. Annual mean biases in surface O_3 simulations (ppb) from **(a)** UKESM1, and the predicted biases in **(b)** the present day (PD), **(c)** the Net Zero (NZ), and **(d)** the SSP3-7.0 scenarios.

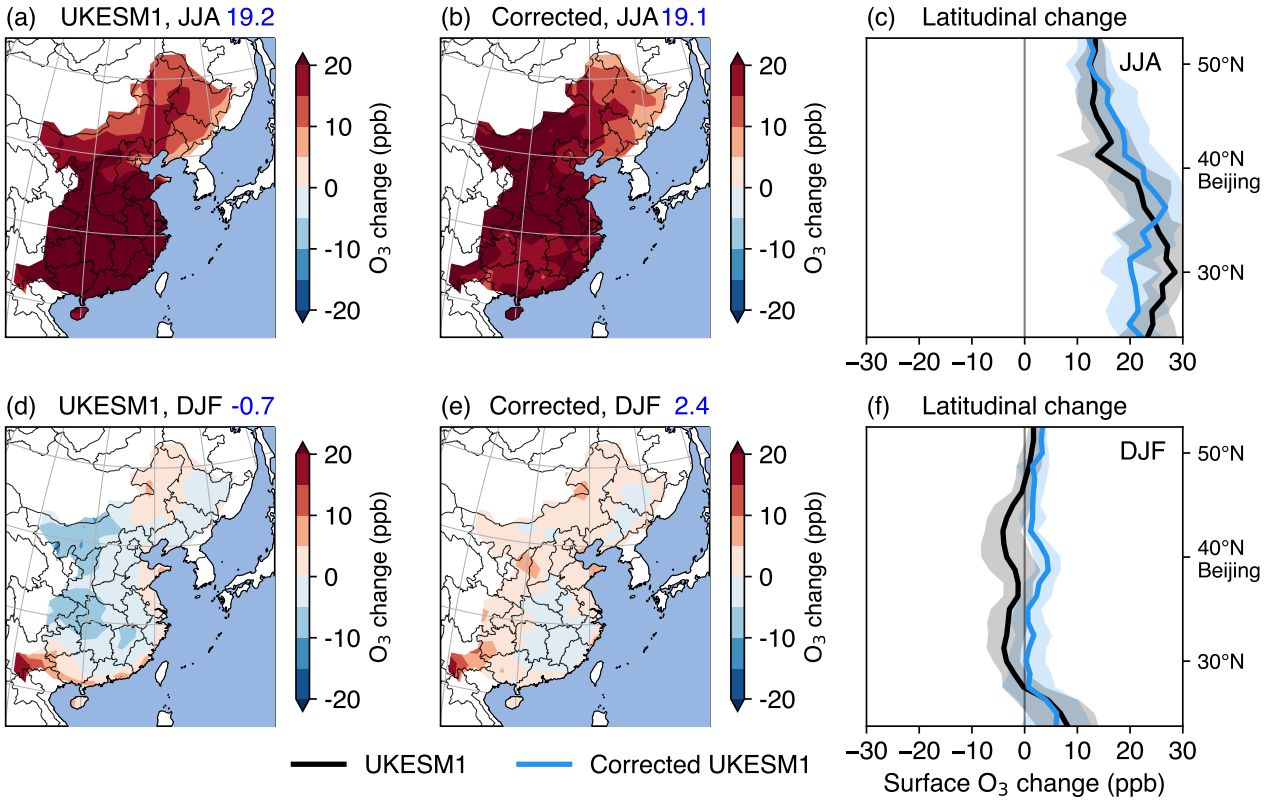

Figure S4. Seasonal mean changes in surface O_3 mixing ratios from the present day to the future under SSP3-7.0 in China. Changes from UKESM1 and the corrected UKESM1 by the deep learning model in **(a, b)** summertime and **(d, e)** wintertime are shown. Mean latitudinal O_3 change between UKESM1 and the corrected UKESM1 are shown in **(c, f)**, with one standard deviation of O_3 changes in latitude shown in shaded areas.