Supplement of

Local and synoptic meteorological influences on daily variability of summertime surface ozone in eastern China

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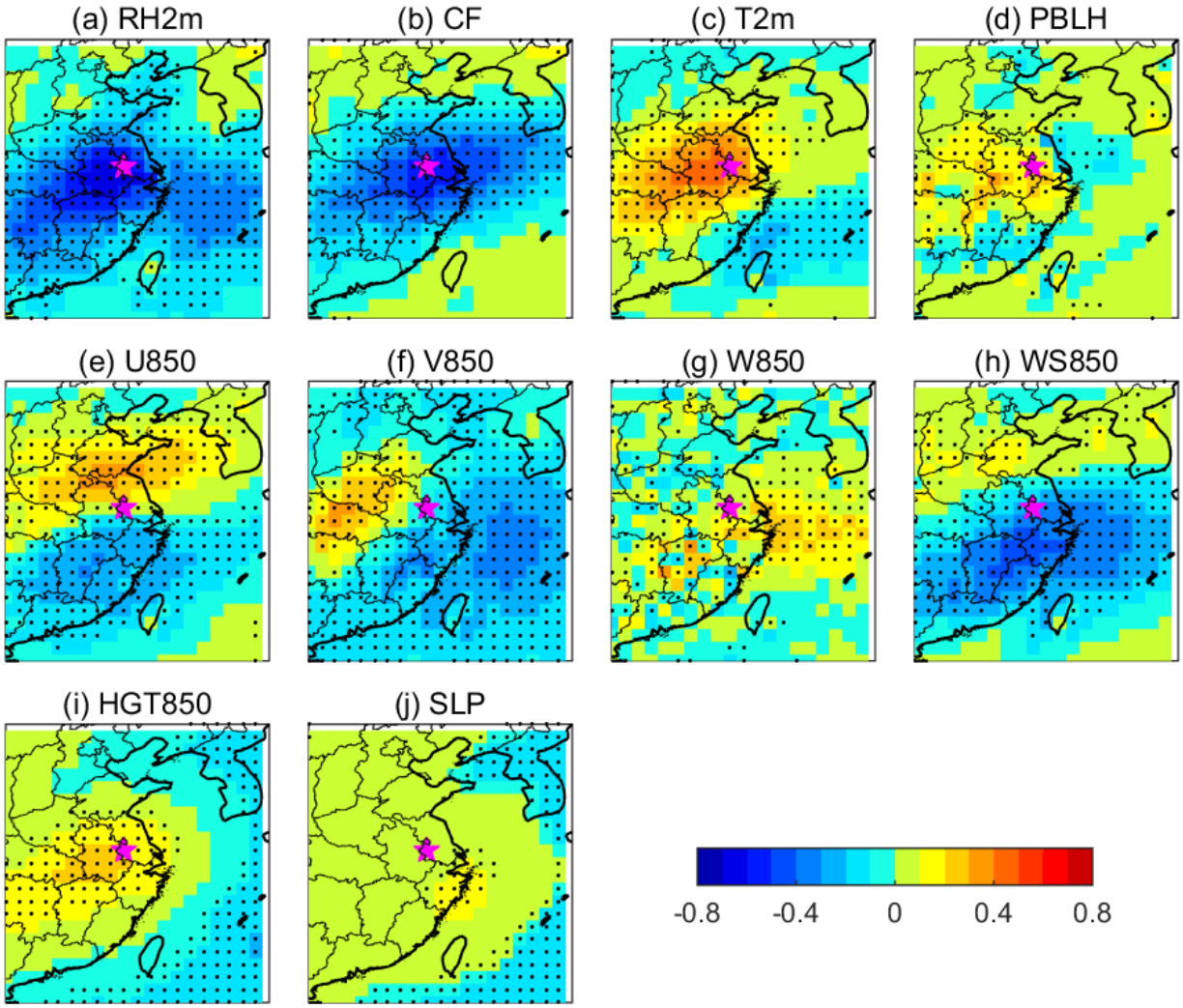

Figure S1. Correlation coefficients (*r*) between daily surface ozone in the grid of Nanjing (purple pentagram) and each of the meteorological variables in all the grids over eastern China in summer during 2013-2018. The black dot in a grid indicates that the correlation coefficient in that grid is significant ($p<0.05$). The abbreviations are for relative humidity at 2 m (RH2m), cloud fraction (CF), temperature at 2 m (T2m), planetary boundary layer height (PBLH), zonal wind at 850 hPa (U850), meridional wind at 850 hPa (V850), vertical wind at 850 hPa (W850), wind speed at 850 hPa (WS850), geopotential height at 850 hPa (HGT850), and sea level pressure (SLP).

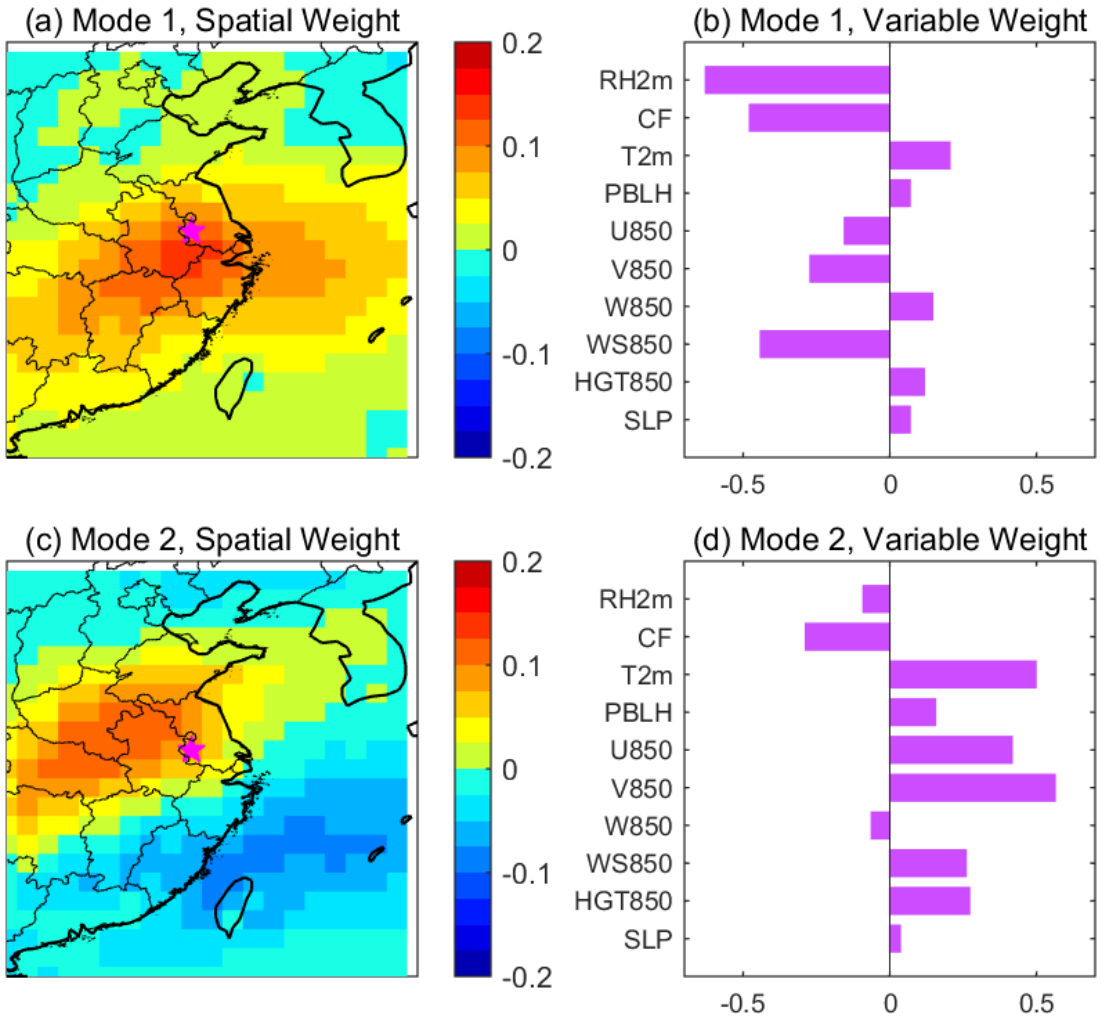

Figure S2. Spatial and variable weights of the first (a, b) and second (c, d) singular value decomposition (SVD) modes describing the spatial correlations of surface ozone in the grid of Nanjing (purple pentagram) and ten meteorological variables in all the grids over eastern China in summer during 2013-2018. The first and the second SVD modes, respectively, explain 58% and 22% of the total variance. The ten meteorological variables are relative humidity at 2 m (RH2m), cloud fraction (CF), temperature at 2 m (T2m), planetary boundary layer height (PBLH), zonal wind at 850 hPa (U850), meridional wind at 850 hPa (V850), vertical wind at 850 hPa (W850), wind speed at 850 hPa (WS850), geopotential height at 850 hPa (HGT850), and sea level pressure (SLP).

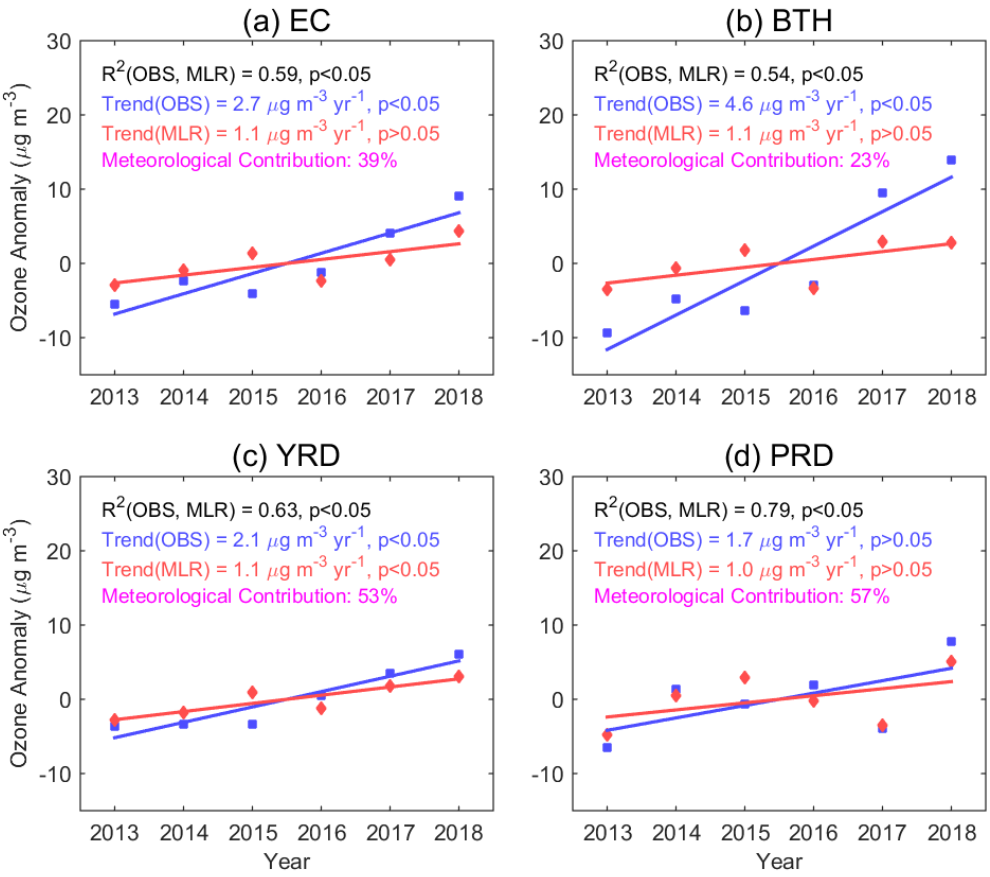

Figure S3. Trends in the regional means of surface ozone from observations (in blue) and predictions using MLR (in red) over eastern China (a), BTH (b), YRD (c), and PRD (d) from 2013 to 2018. The coefficient of determination (R^2) between the observed and predicted ozone is shown in black. The contribution of meteorology described by the MLR model to the observed ozone trend is shown in purple.