Supplementary material to "Stratospheric impact on the Northern Hemisphere winter and spring ozone interannual variability in the troposphere"

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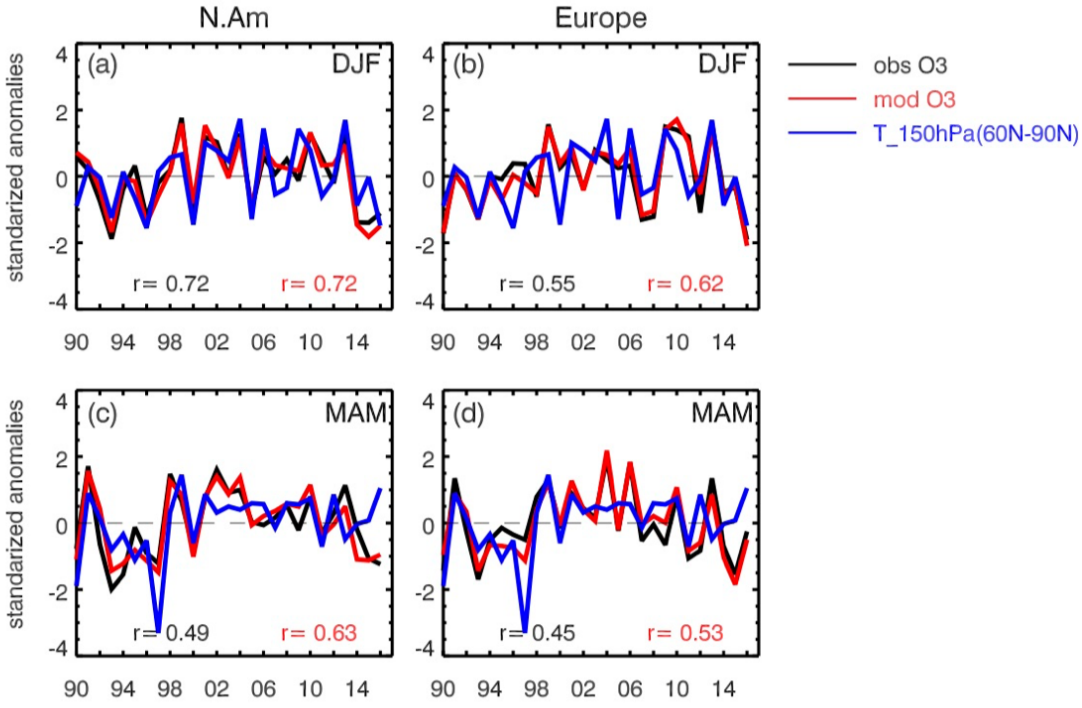

Figure S1: Standardized anomalies of observed (black) and simulated (red) O_3 averaged over the North American stations (left) and over the European stations (right) at 200 hPa with averaged temperature around the polar cap for latitudes north of 60°N (blue), which is a good measure of the overall temperature in the polar vortex. Correlation coefficient between observed O_3 and temperature (black), simulated O_3 and temperature (red) is shown in each panel.

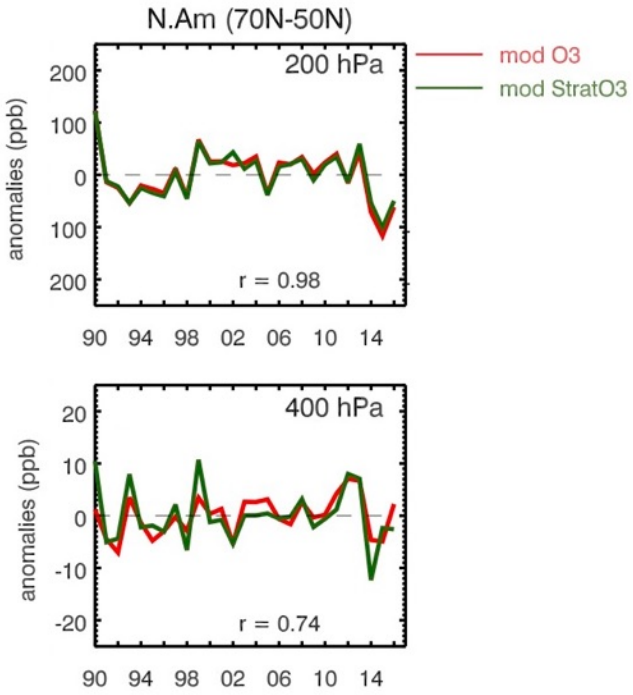

Figure S2: Time series plots of simulated ozone (red) and StratO_3 (green) anomalies (unit: ppb) at 200 hPa (top), 400hPa (bottom) averaged from the selected ozonesonde sites over the 50°N - 70°N sub-region of North America in winter from 1990 to 2016.

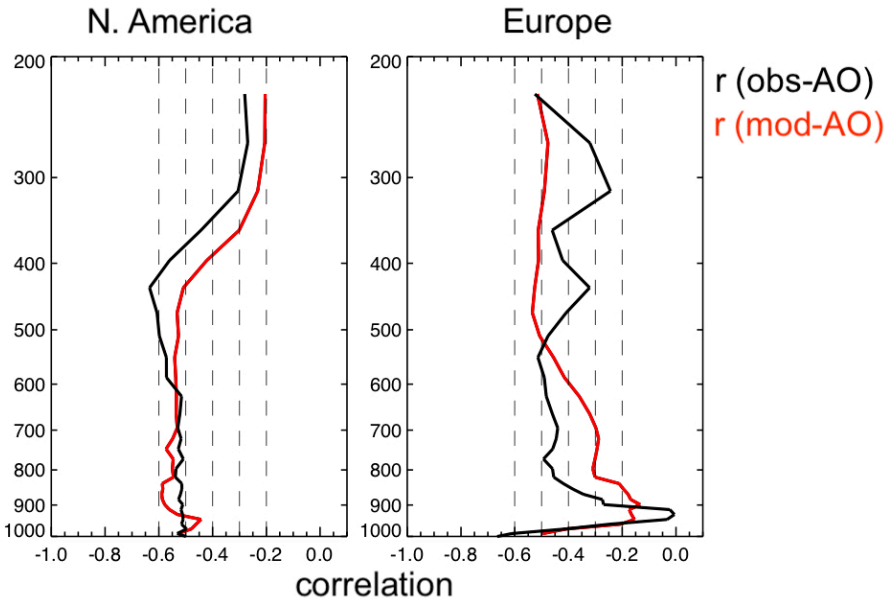

Figure S3: Profiles of correlations between O_3 and AO index in winter from 1990 to 2016 averaged over the North American and the European stations.