As noted in Sect. 2.2~~,~~ of the manuscript, our UMUKCA REFC2 ensemble of integrations consists of 2 full 1960-2099 integrations (ENS1-2) and 5 shorter runs ~~from~~ covering November 1980 to December 2080 (ENS3-7). For technical reasons, data from 5 six-year-long intervals ~~in total~~ were excluded from the analysis, in particular:

- July 2025 – June 2031 in member number 5 (ENS5)
- April 2074 – March 2080 in member number 5 (ENS5)
- April 1996 – March 2002 in member number 6 (ENS6)
- April 2043 – March 2049 in member number 6 (ENS6)
- August 1982 – July 1988 in member number 7 (ENS7)

An example of the resulting timeseries is shown in Fig. S2~~1~~ for 65-90ºN March total ozone column.

Supplementary Figures

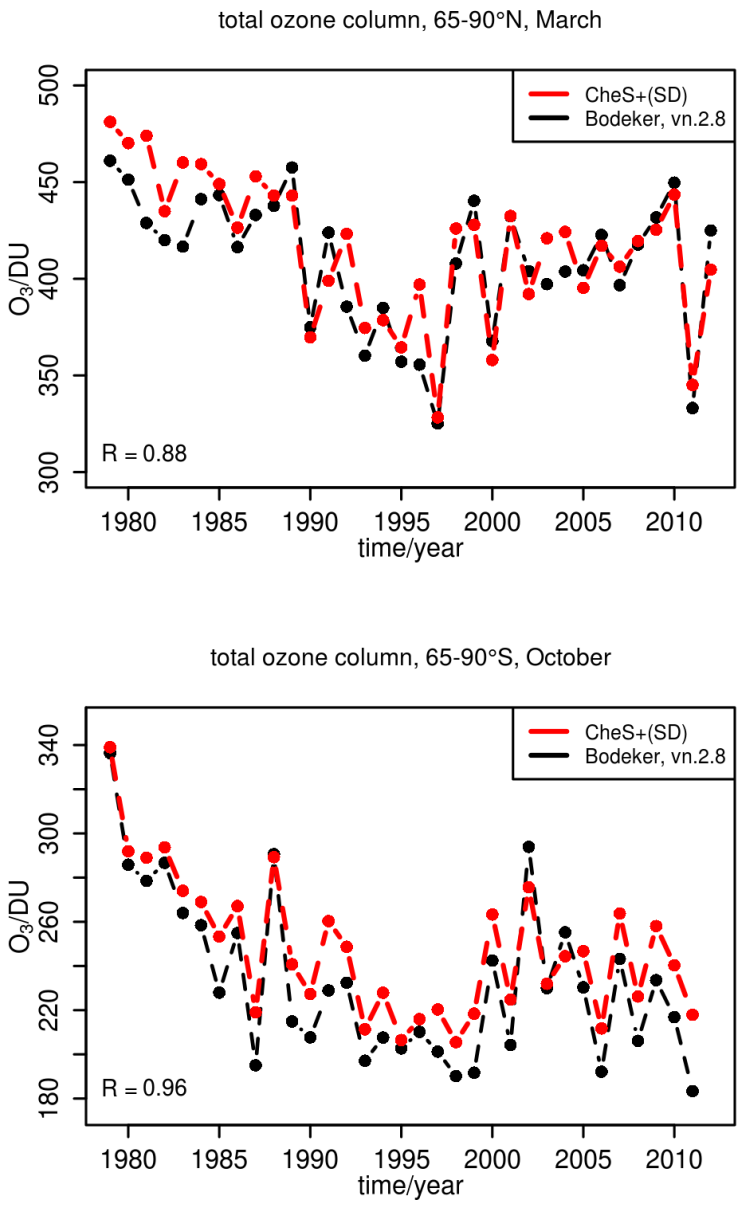

Figure S1. The evolution of total ozone column [DU] over 1979-2012 for 65-90°N March (top) and over 1979-2011 for 65-90°S October (bottom) in the nudged UMUKCA CCMI REFC1 CheS+(SD) integration (red) and observations (black, Bodeker total ozone column dataset: Bodeker et al., 2005; Müller et al., 2008). See Sect. 2.1 for details.

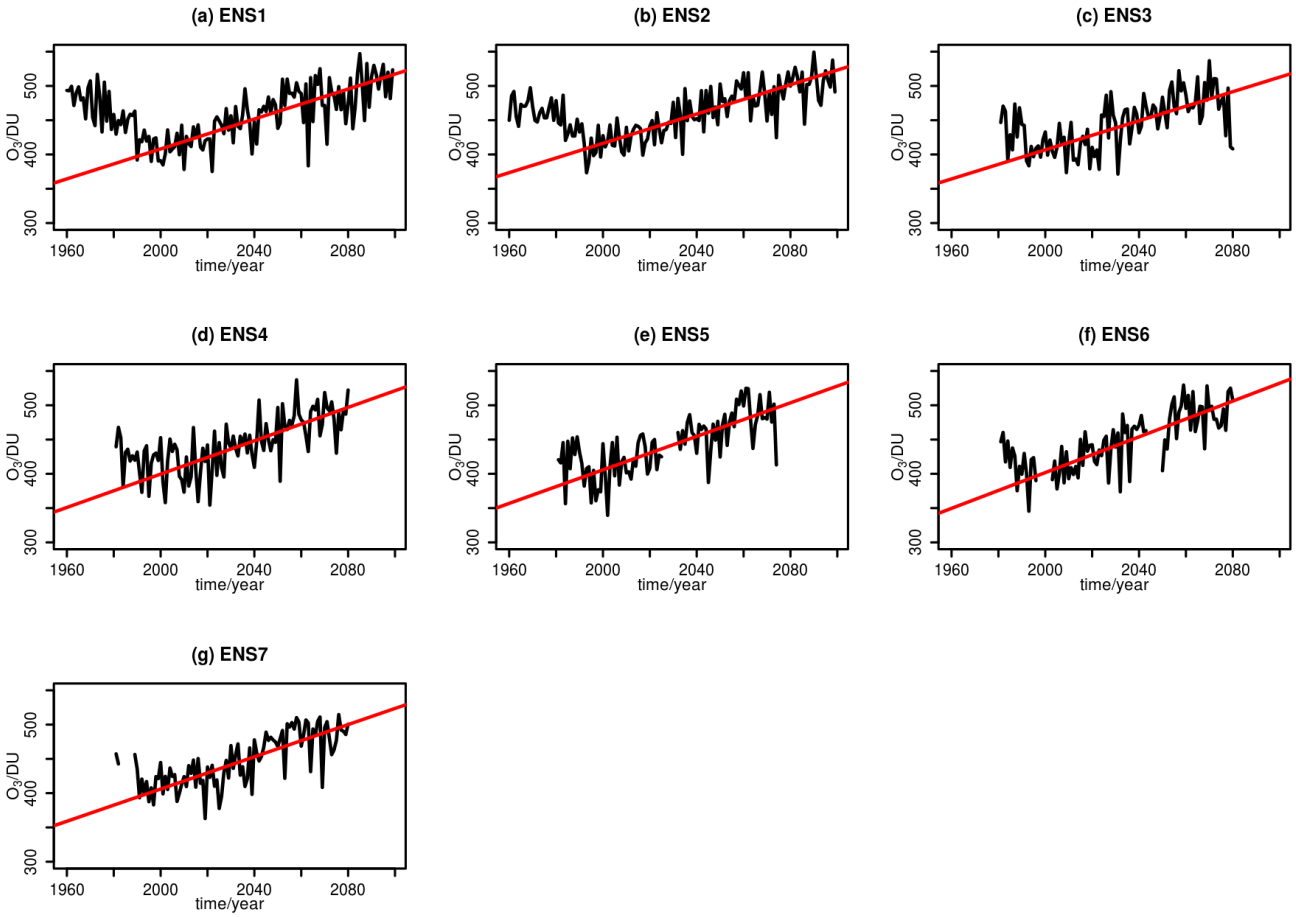

Figure S2~~1~~.~~:~~ (a-g) Timeseries of 65-90°N March total column ozone ~~columns~~ [DU] for individual ensemble members as labelled (black). Red lines show the corresponding ~~long-term~~ linear trends over the 2000-2080 period.

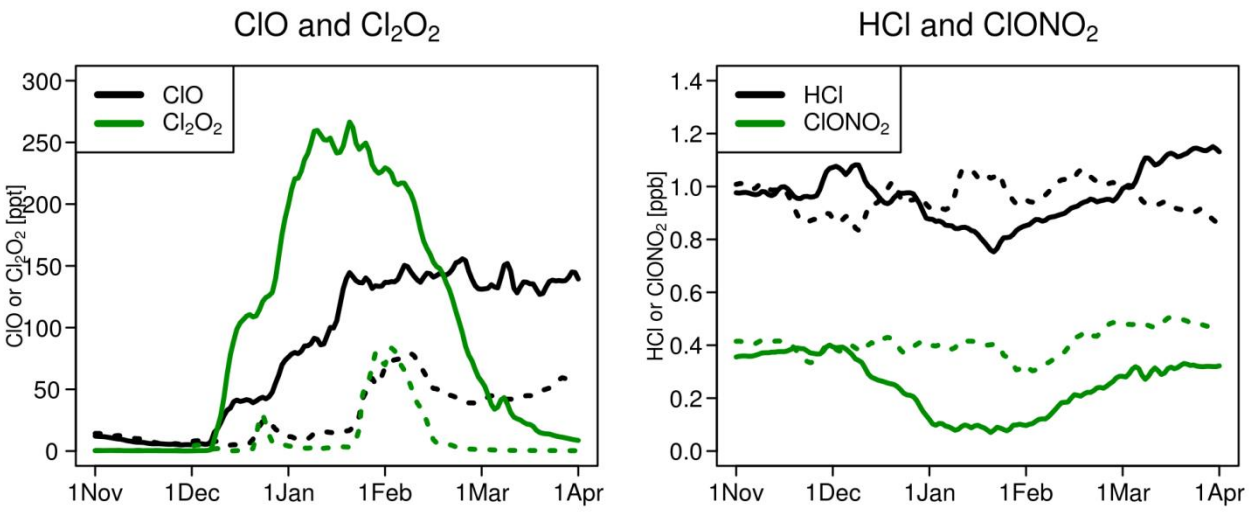

Figure S3. Timeseries of 65-90°N daily mean ClO and Cl_2O_2 [ppt] (left) and HCl and $ClONO_2$ [ppb] (right) at 21.5 km for the model case study years 2063 (solid lines) and 2060 (dashed lines).