



Supplement of

Atmospheric impacts of chlorinated very short-lived substances over the recent past – Part 1: Stratospheric chlorine budget and the role of transport

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Figure S1. Surface volume mixing ratios [ppt] of (a) CH_2CI_2 , (b) $CHCI_3$, (c) C_2CI_4 , and (d) $C_2H_4CI_2$ as a function of time and latitude simulated in the ensemble mean VSLS.



Figure S2. Comparison of the time evolution of the monthly mean 30°S-30°N SSTs datasets imposed in the simulations. Black shows the CMIP6-recommended dataset (Durack and Taylor, 2016), red shows the dataset from Reynolds and Smith (1994).



Figure S3. Shading: 2010-2018 difference [ppt] in the (a) HCl, (b) ClONO₂, (c) COCl₂, and (d) ClO response between Δ SD-5 and Δ FR. Contours show the corresponding Δ SD-5 responses.



Fig. S4. Shading: 2010-2018 difference [ppt] in the (a) HCl, (b) CIONO₂, (c) COCl₂, and (d) CIO response between Δ SD-I and Δ FR. Contours show the corresponding Δ SD-I responses.



Figure S5. As in Fig. 10 of the main paper but for linear trends in deseasonalised AoA [day/10yrs].



Figure S6. As in Fig. 11 of the main manuscript but for linear trends in $COCI_2$ mixing ratios [ppt/10yrs].



Figure S7. As in Fig. 9 of the main paper but for COCl₂ trends.