



## Supplement of

## Climate response to off-equatorial stratospheric sulfur injections in three Earth system models – Part 2: Stratospheric and free-tropospheric response

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Figure S1. As in Fig. 1 but changes calculated using the online SAD diagnostics, which are available for CESM and UKESM only.



Figure S2. Climatological zonal mean winds [m/s], averaged over 2035-2064, in the control SSP2-4.5 for each of the four models.



Figure S3. As in Figure 3 but for the associated changes in CIO [ppt].



Figure S4. As in Figure 3 but for the associated changes in the activated bromine, BrOx [ppt]. Note differences in scale between CESM/UKESM and GISS-MATRIX/GISS-OMA values (both contours and shading).



Figure S5. As in Figure 6 but for the October mean ozone changes.



Figure S6. Zonal winds averaged over 10°S-10°N simulated in each SAI injection experiment as a function of time (months) over the last 8 years of the simulations, as well as in the control SSP2-4.5 simulations during the same time period.