

Supporting Information for "Identifying climate impacts from different Stratospheric Aerosol Injection strategies in UKESM1"

Alice F. Wells¹ *, Matthew Henry¹, Ewa M. Bednarz^{2,3,4}, Douglas G.

MacMartin⁴, Andy Jones⁵, Mohit Dalvi⁵ and James M. Haywood^{1,5}

¹Faculty of Environment, Science and Economy, Department of Mathematics and Statistics, University of Exeter, Exeter, EX4 4QE,

United Kingdom

²Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado Boulder, Boulder, CO, USA

³NOAA Chemical Sciences Laboratory (NOAA CSL), Boulder, CO, USA

⁴Sibley School of Mechanical and Aerospace Engineering, Cornell University, Ithaca, NY, USA

⁵Met Office, Exeter, EX1 3PB, United Kingdom

Contents of this file

1. Tables S1 to S5

*Current address, Faculty of
Environment, Science and Economy,
Department of Mathematics and Statistics,
University of Exeter, Exeter, EX4 4QE,
United Kingdom

Introduction This document contains additional useful information accompanying “Identifying climate impacts from different Stratospheric Aerosol Injection strategies in UKESM1” Figures S1 to S5 are supporting figures referenced in the paper.

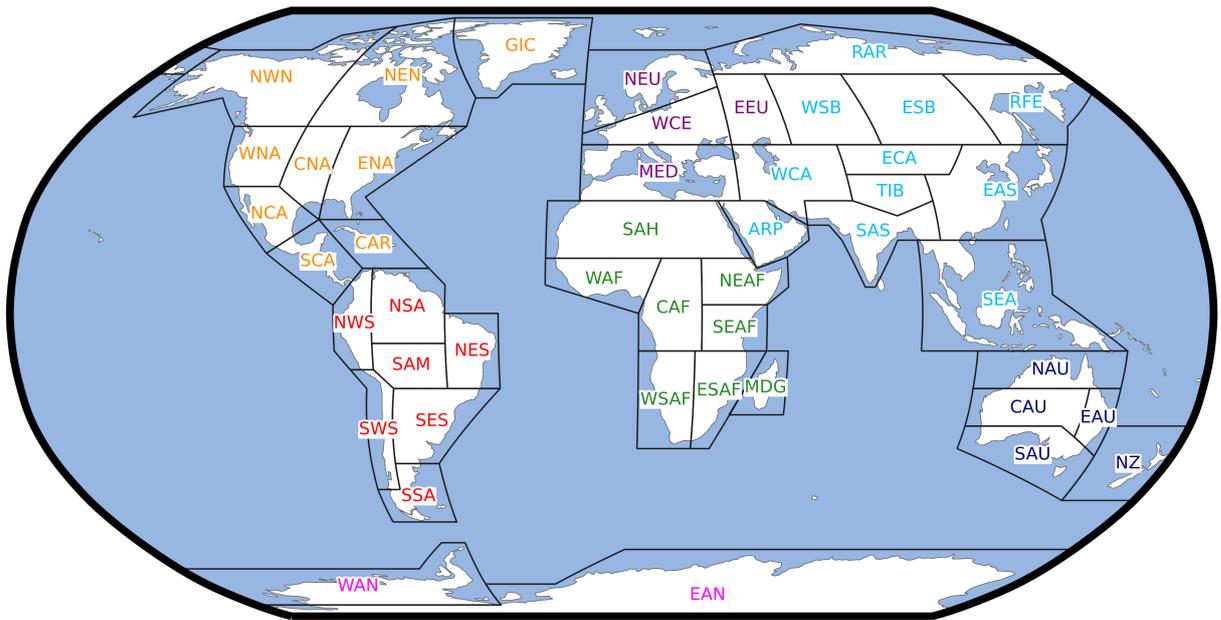


Figure S1. The areas defined by the geographic regions in IPCC (2021) that are adopted in this study.

SSP5-8.5(2080-2100) - SSP2-4.5(2080-2100)

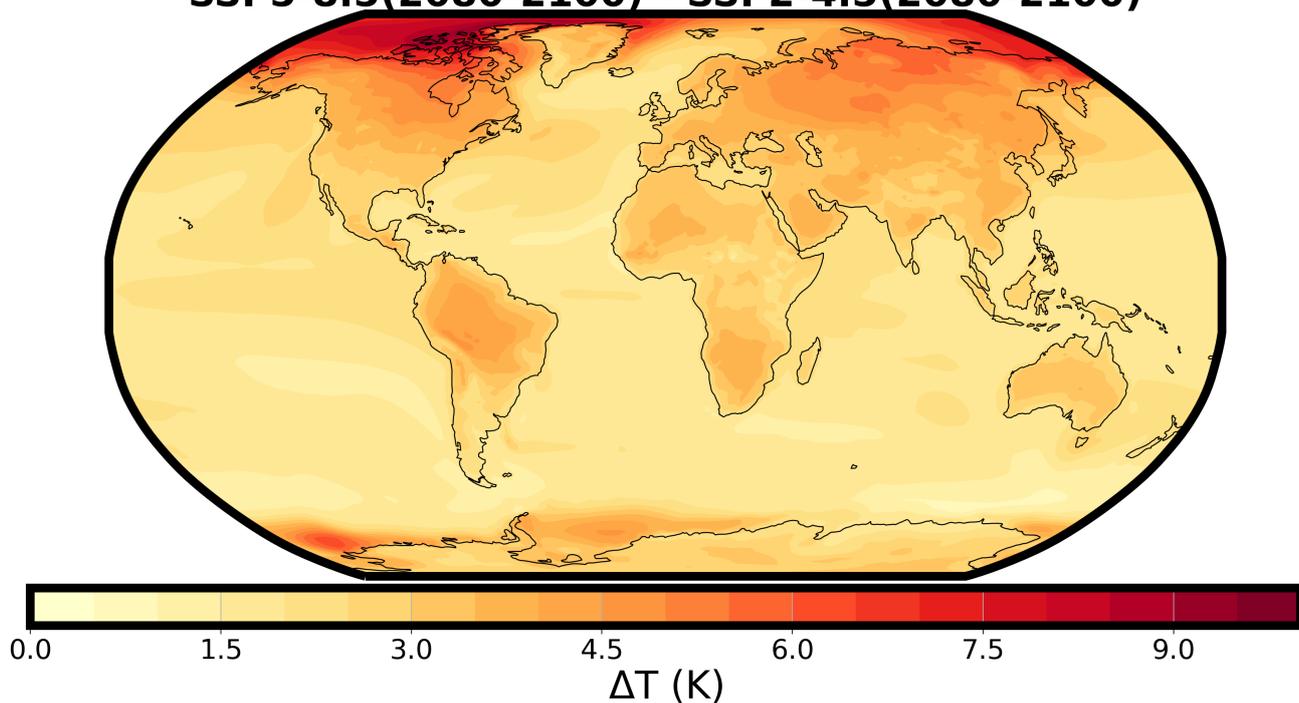


Figure S2. Global mean surface air temperature change in the ensemble mean, averaged over 2080-2100 for SSP5-8.5 relative to the SSP2-4.5 ensemble mean in the same time period.

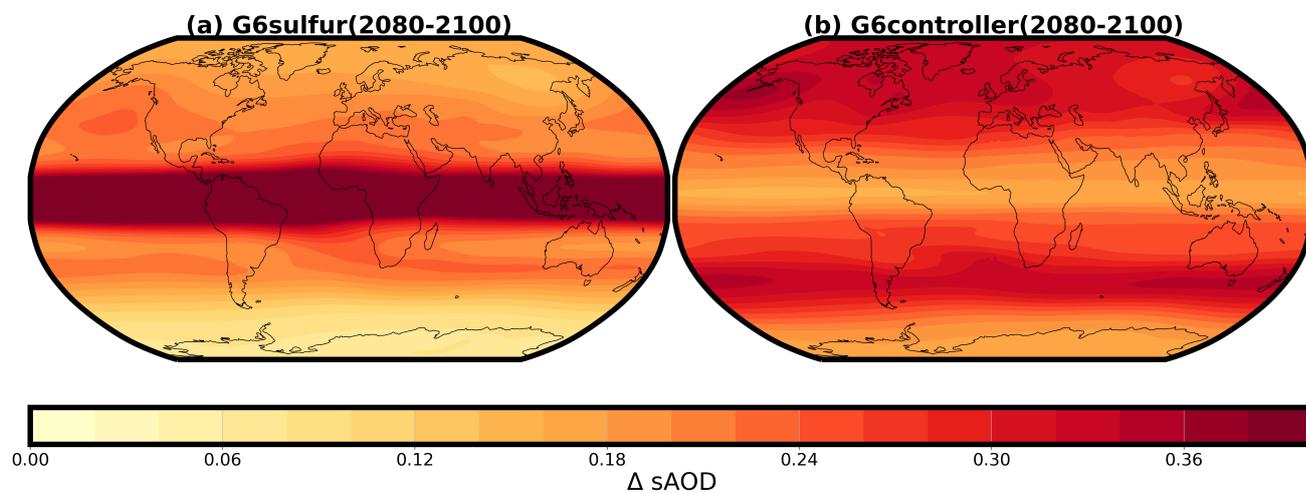


Figure S3. Global mean stratospheric aerosol optical depth for the ensemble-mean of (a) G6sulfur and (b) G6controller averaged over 2080-2100.

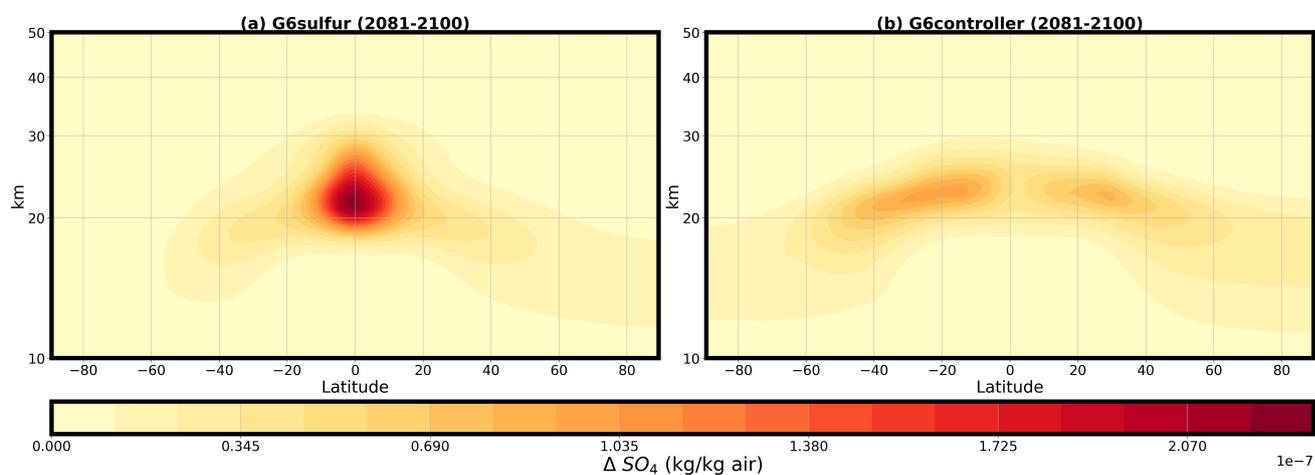


Figure S4. Zonal mean SO_4 mass mixing ratio averaged over 2080-2100 for (a) G6sulfur and (b) G6controller.

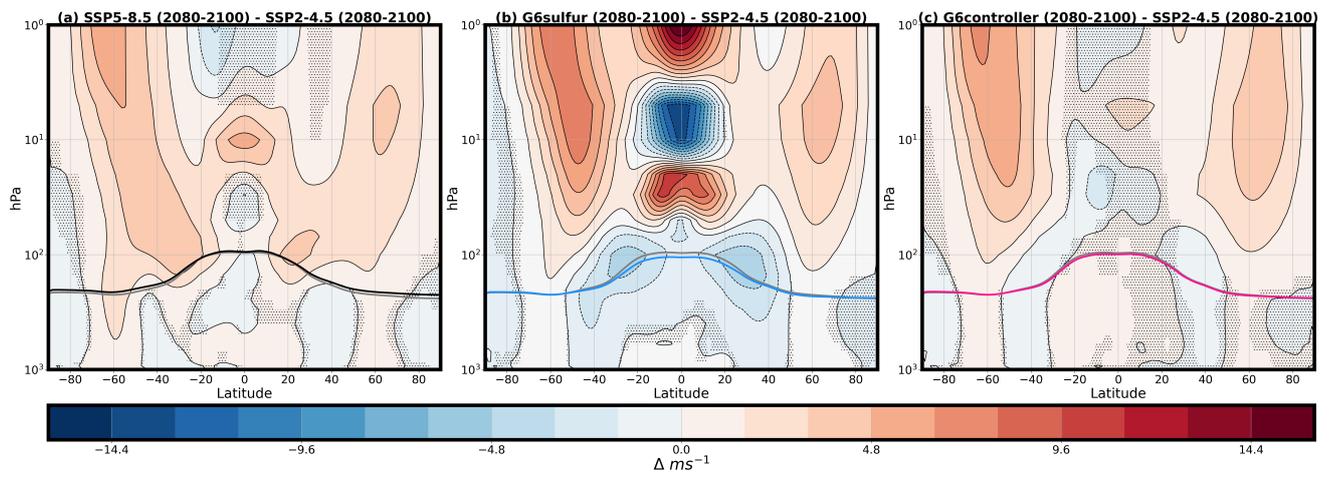


Figure S5. Zonal mean wind averaged over 2080-2100 for (a) SSP5-8.5, (b) G6sulfur and (c) G6controller relative to SSP2-4.5. The solid lines indicate the tropopause height for SSP2-4.5 (grey), SSP5-8.5 (black), G6sulfur (blue) and G6controller (pink).