Figure A7. As for Fig. 11 except for the HADGEM-based DAMIP experiments.

Figure A8. As for Fig. 12 except for the HADGEM-based DAMIP experiments.

The table also compares the results of the offline radiative calculations used to estimate the change in $F_{SW}^{↑}$ and contributions to the changes in $F_{SW}^{↑}$ from changes in the different cloud variables for the aerosol-only runs. For the pre-1970 period the aerosol proxy values agree with the DAMIP-hist-aer values within the uncertainties suggesting that the aerosol proxy estimates are sufficient for the AerChemMIP UKESM1 analysis in the main text. The uncertainties are very large for the post-1970 period and so it is difficult to assess the accuracy of the aerosol proxy method. However, the offline analysis of the contributions to the change in $F_{SW}^{↑}$ from the change in cloud variables is highlighted as being uncertain in the main text and is not relied upon for the conclusions that are drawn. We also note that the use of the aerosol proxy only applies for the analysis of the aerosol-only emissions and not the other runs.

Appendix C: Estimation of aerosol forcing based on nudged simulations

Here we utilize output from the same controlled meteorology (nudged) simulations as used in Grosvenor and Carslaw (2020), but for the region of the North Atlantic used in the current paper, to estimate the changes due to aerosol that would occur.