

Supporting Information for “Ocean Heat Content responses to changing Anthropogenic Aerosol Forcing Strength: regional and multi-decadal variability”

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1. Figures S1 to S8

Introduction The supplementary information contains figures that there was not space for in the main manuscript, or that provide more granularity than the figures in the main manuscript. All figures are referenced in the main manuscript.

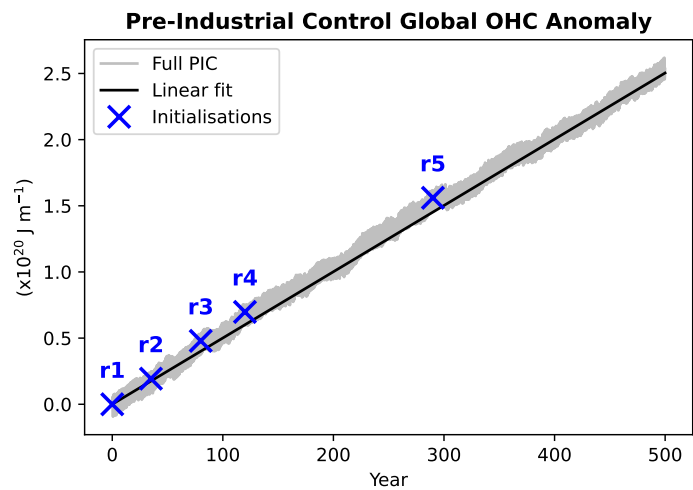


Figure S1. Example of Pre-Industrial Control drift in OHC: Global OHC anomalies from the Pre-Industrial Control Run, scaled by volume as outlined in main text (grey line), linear fit used to de-drift (black line), and locations of initialisations for each ensemble member of the historical simulations (blue crosses). De-drifting involved removing the 500-yr linear trend (black line) and accounting for the separation of the initialisations (different crosses).

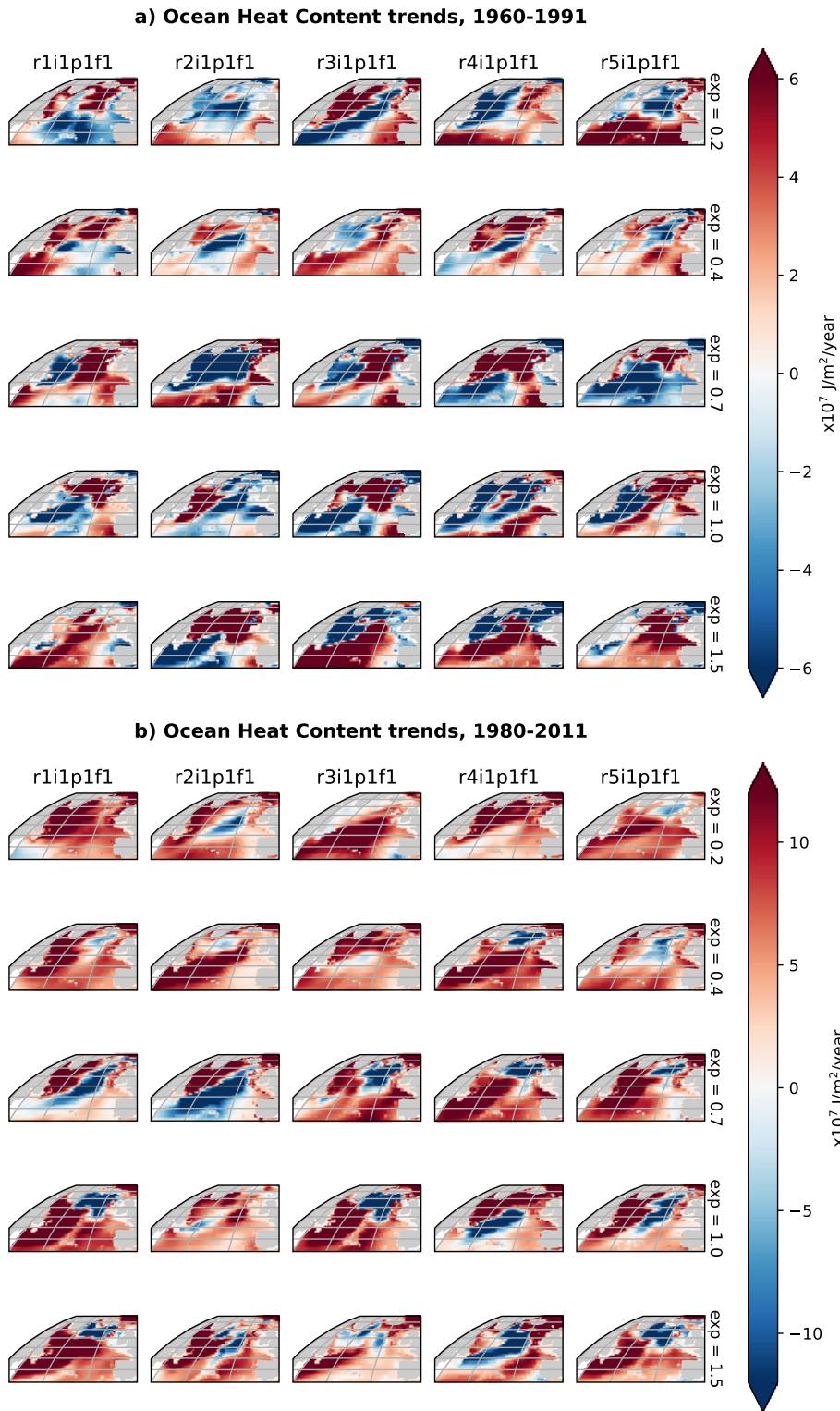


Figure S2. Colours indicate the North Atlantic depth-integrated OHC trends by ensemble member (column) and by AA forcing factor (row) as labelled, for (a) 1960-1991 and (b) 1980-2011.

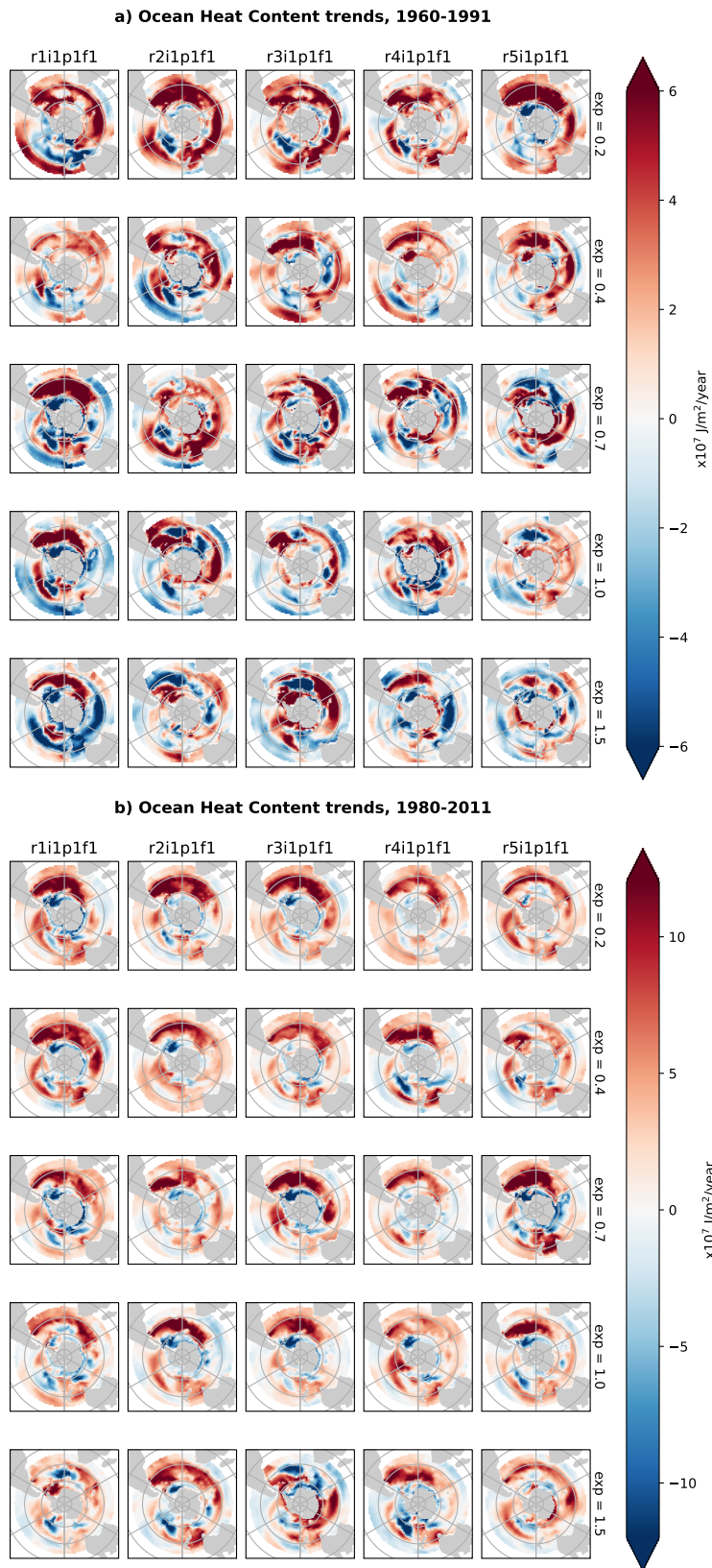


Figure S3. As in figure S1, but for the Southern Ocean

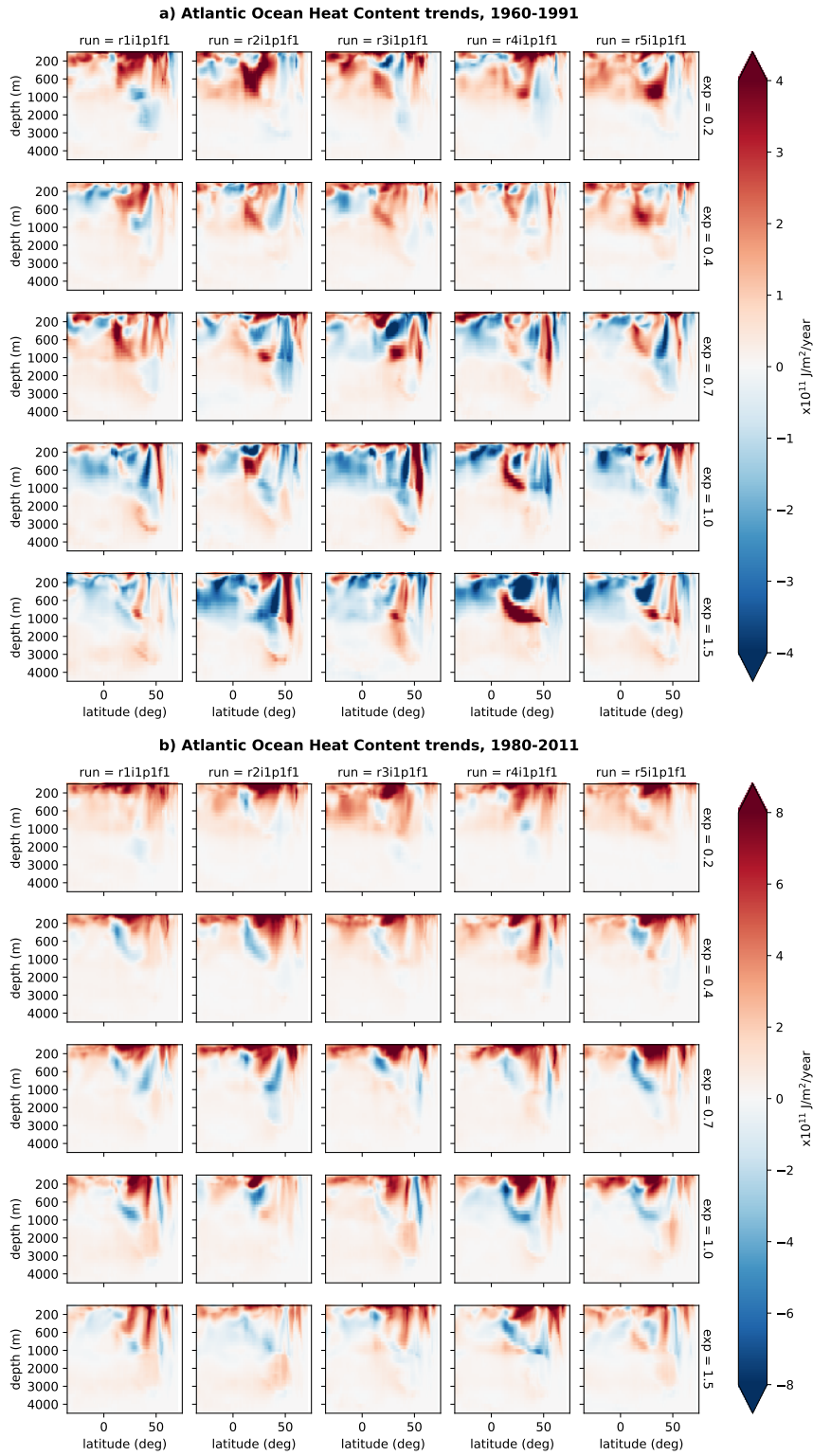


Figure S4. Colours indicate the zonally-integrated Atlantic OHC trends for each ensemble member (column) and each forcing factor (row) for (a) 1960-1991 and (b) 1980-2011. Note that depth intervals are not constant, and colour axis limits in b) are twice those in a).

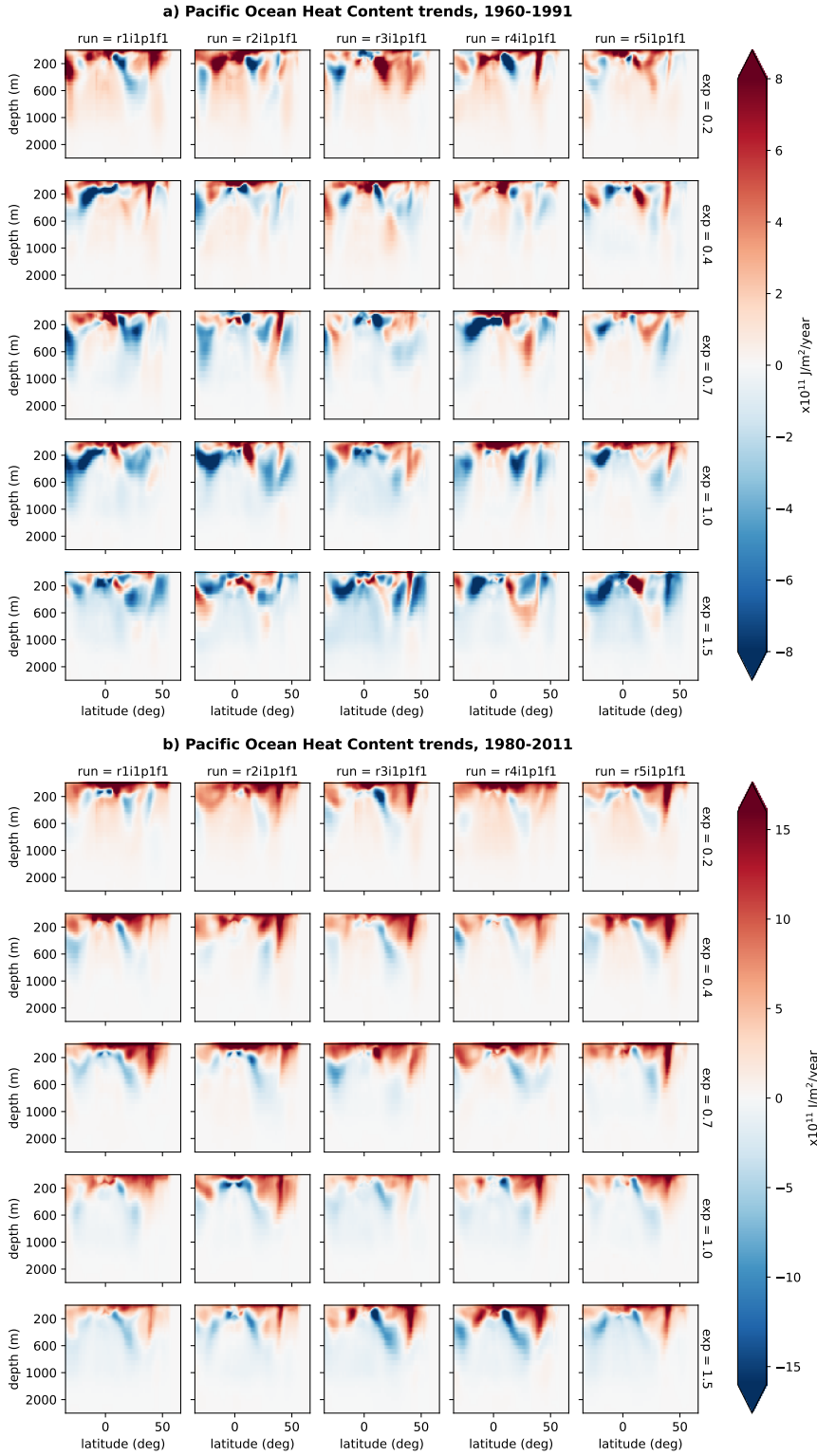


Figure S5. As in figure S3, except for the Pacific Ocean.

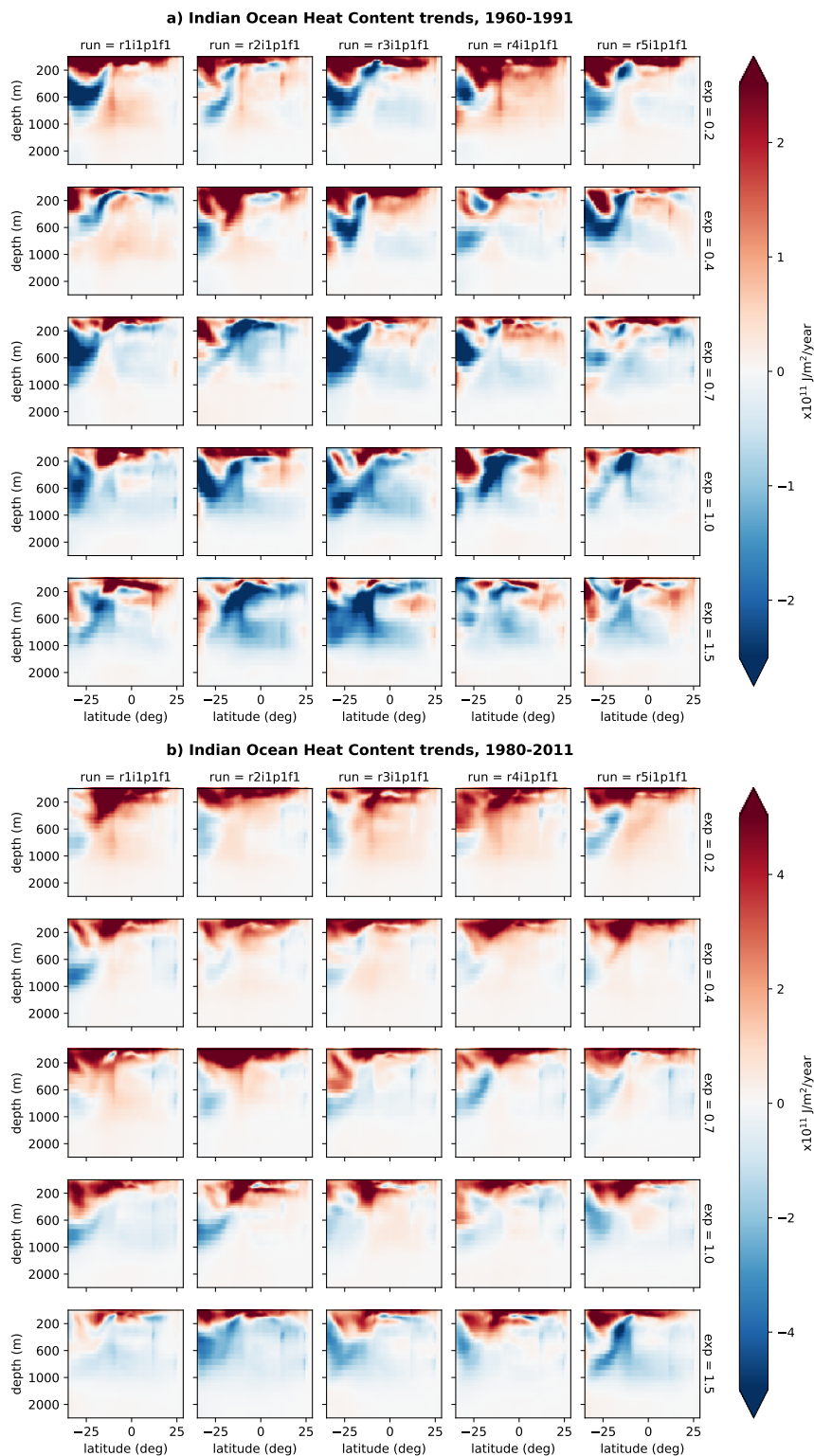


Figure S6. As in figure S3, except for the Indian Ocean.

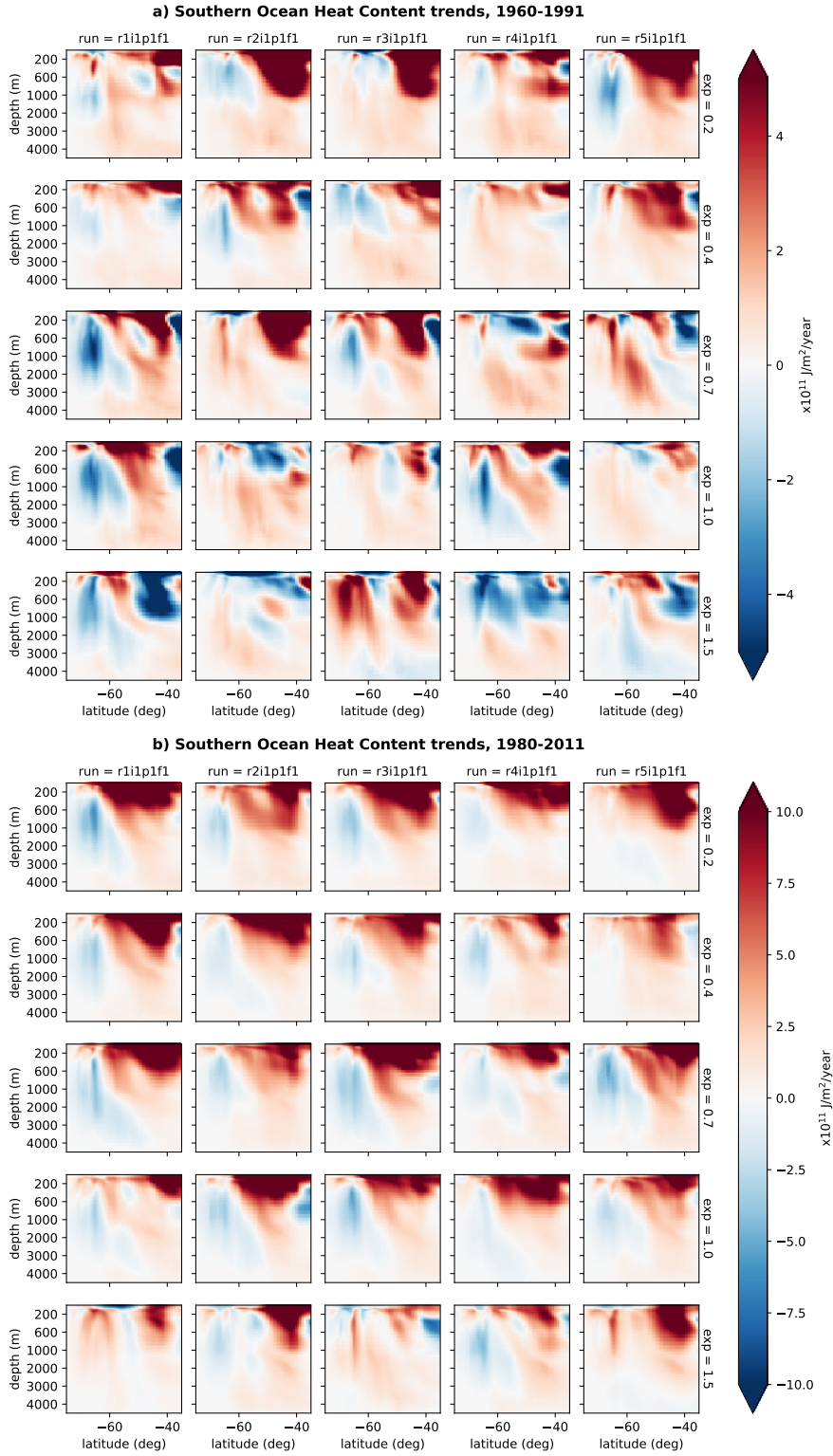


Figure S7. As in figure S3, except for the Southern Ocean.

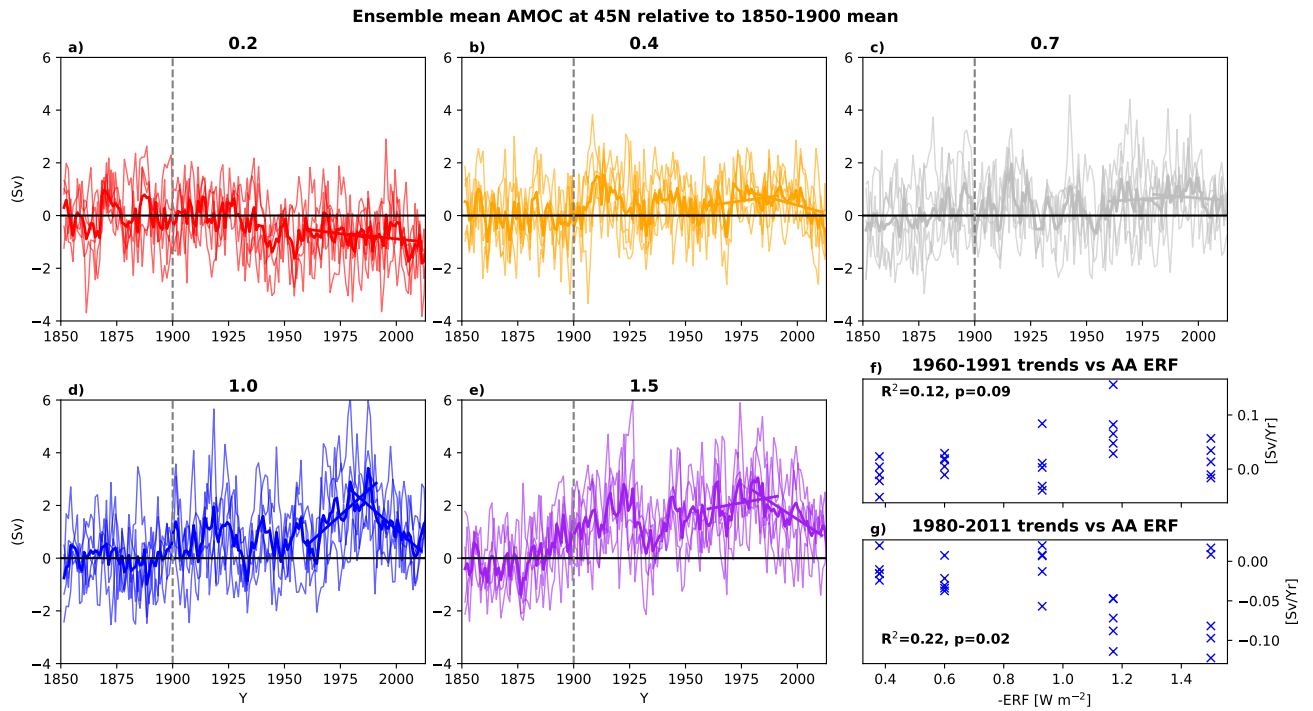


Figure S8. Panels a-e show the AMOC at 45N relative to the 1850-1900 mean, for each forcing factor as labeled. Thin lines are individual ensemble members and thicker lines are ensemble means. Straight thick lines indicate ensemble-mean linear trends over 1960-1991 and 1980-2011. Linear trends for all ensemble members are shown in panels f and g, plotted against AA ERF. R^2 and p are shown for the linear correlation of the trends against ERF magnitude.

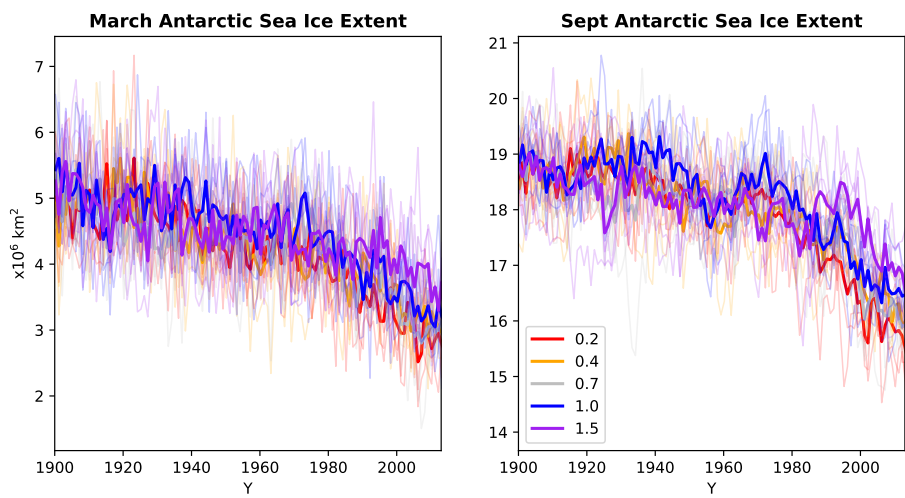


Figure S9. March and September Southern Hemisphere sea ice extent for each forcing factor as labelled. Thin lines are individual ensemble members and thicker lines are ensemble means.