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# Supplementary Material - Drivers of regional variation in the de-emergence of climate change under negative emissions

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## Supplementary Figures

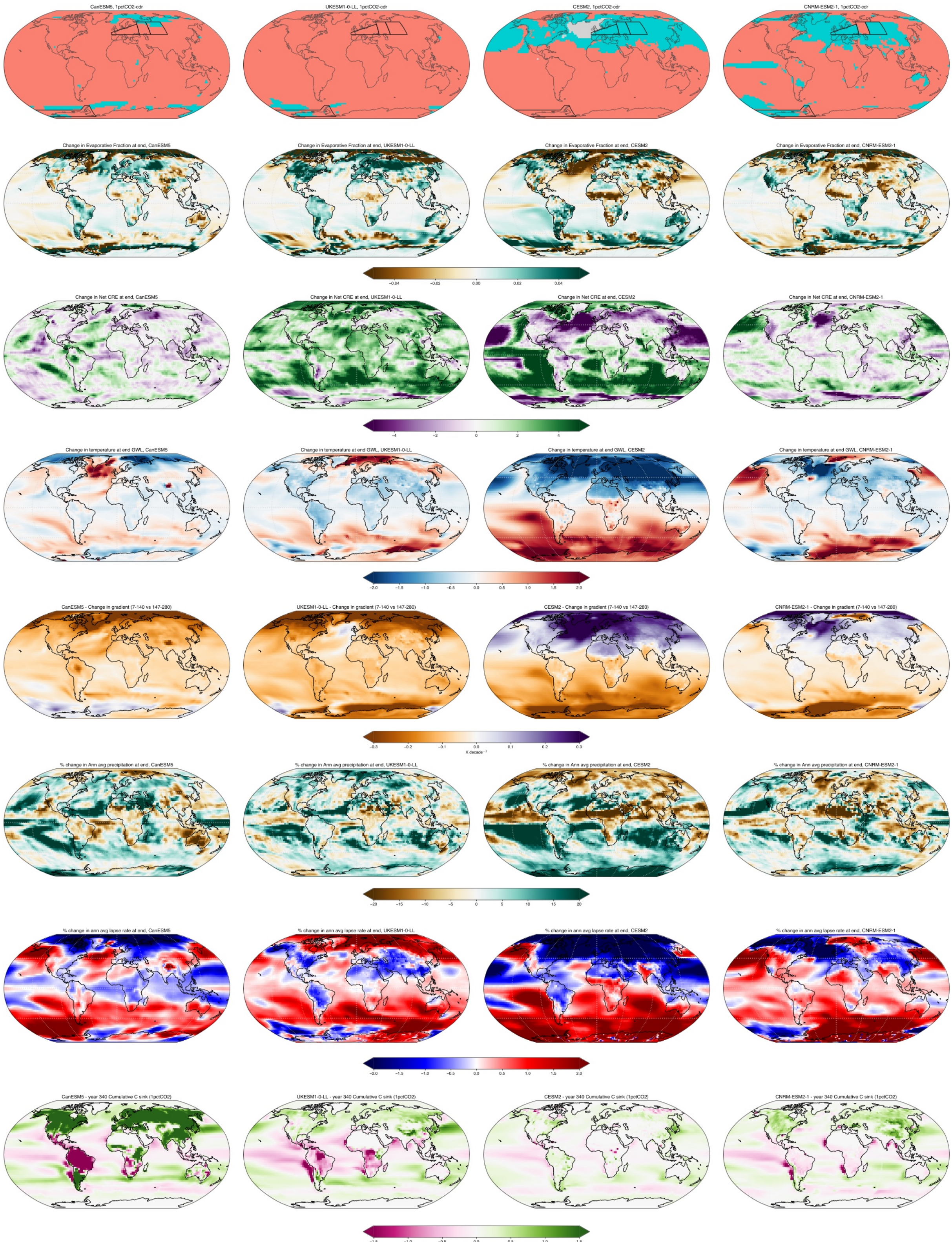


Fig. S1. As per Figures 2c, 3d, 4c, 5c, 5a, 6a, 6b, 7c, for the four highest ECS models, CanESM5, UKESM1-0-LL, CESM2, and CNRM-ESM2-1 (in descending order of ECS from left to right). For the top row, red means the annual average temperature emerges over S/N of 1.0, blue means it de-emerges back below this threshold by year 340, while grey means it never emerged.

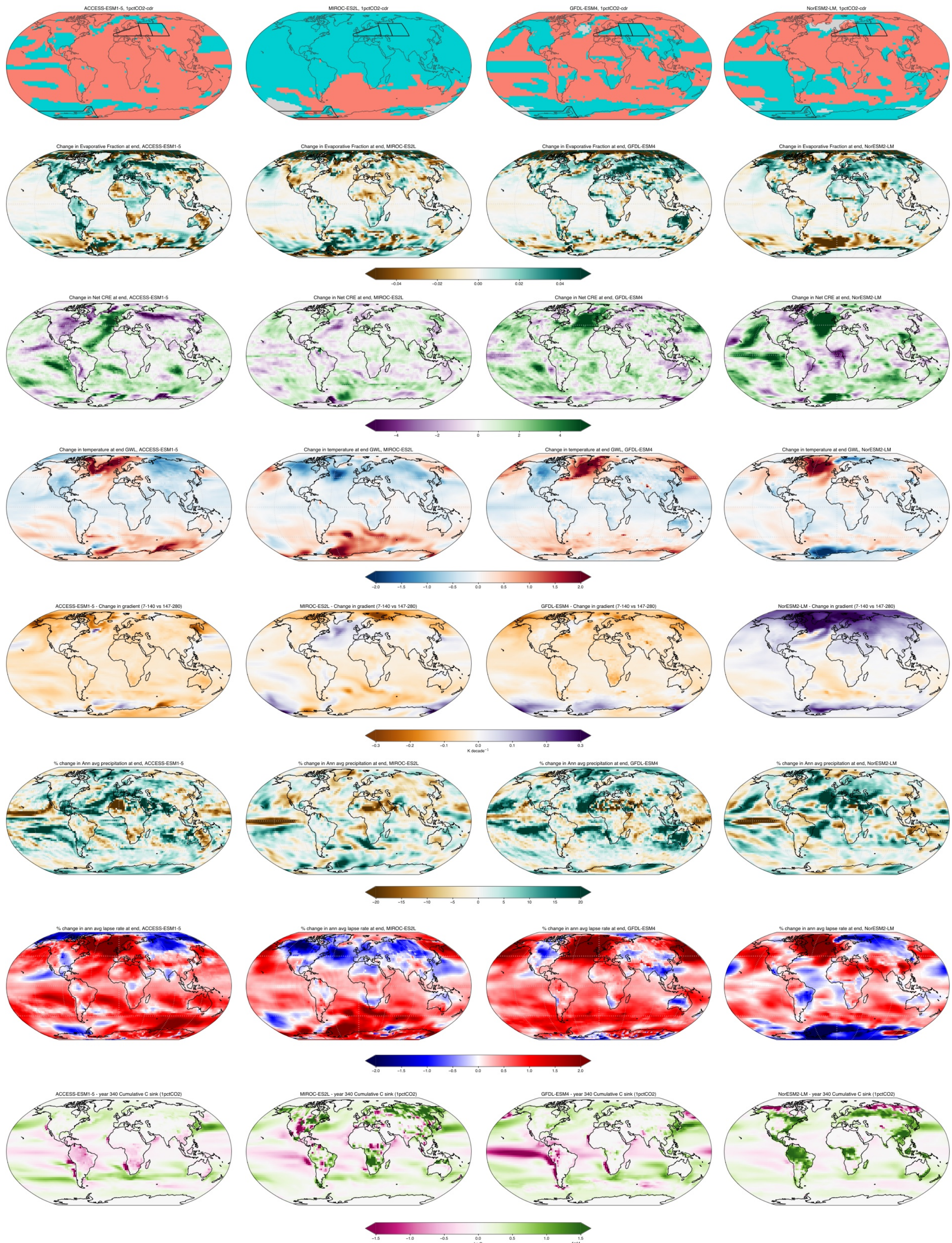


FIG. S2. As per Figures 2c, 3d, 4c, 5c, 5a, 6a, 6b, 7c, for the four lowest ECS models, ACCESS-ESM1-5, MIROC-ES2L, GFDL-ESM4, and NorESM2-LM (in descending order of ECS from left to right). For the top row, red means the annual average temperature emerges over S/N of 1.0, blue means it de-emerges back below this threshold by year 340, while grey means it never emerged.

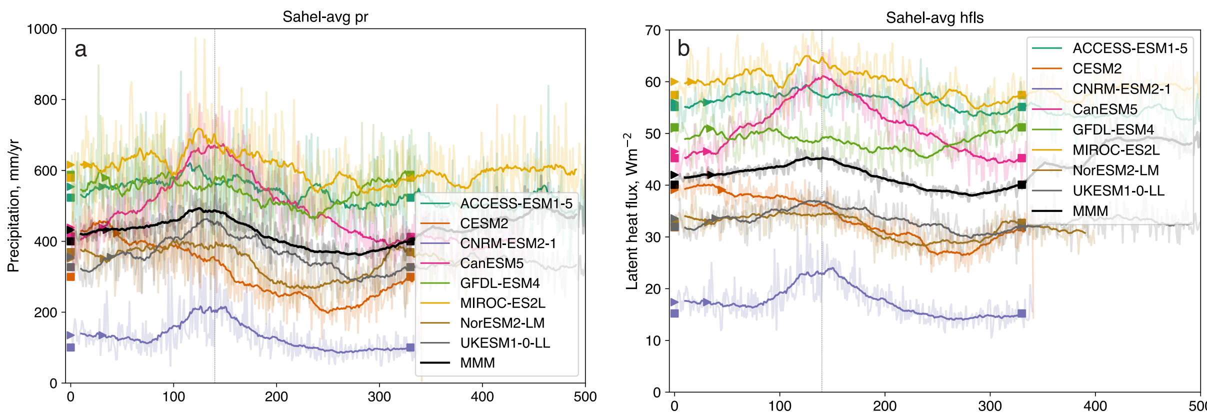


FIG. S3. Timeseries of regional-average precipitation (a) and latent heat flux (b) in the Sahel region outlined in Figures 6a and 3b (8-18N, -16-40E). Vertical line indicates year 140, when the forcing rate reverses.

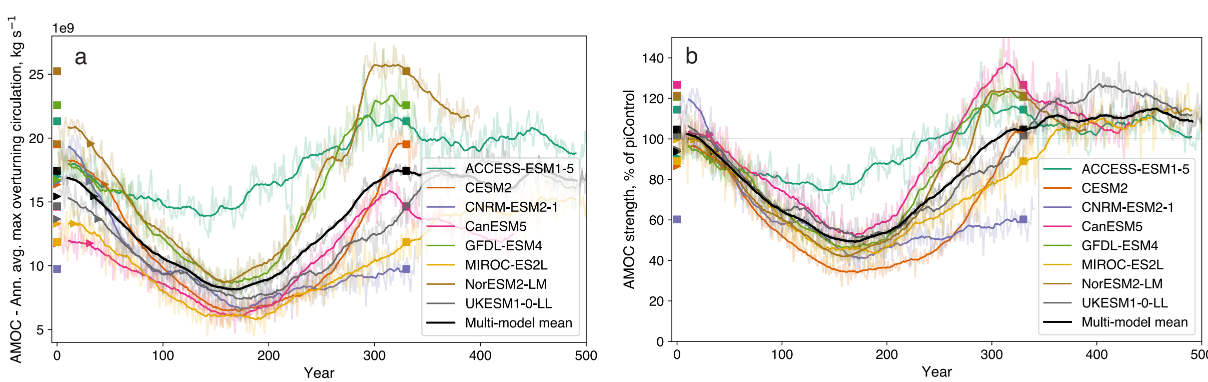


FIG. S4. AMOC strength index over time as (a) absolute values and (b) percentage change relative to the pre-industrial control experiment.

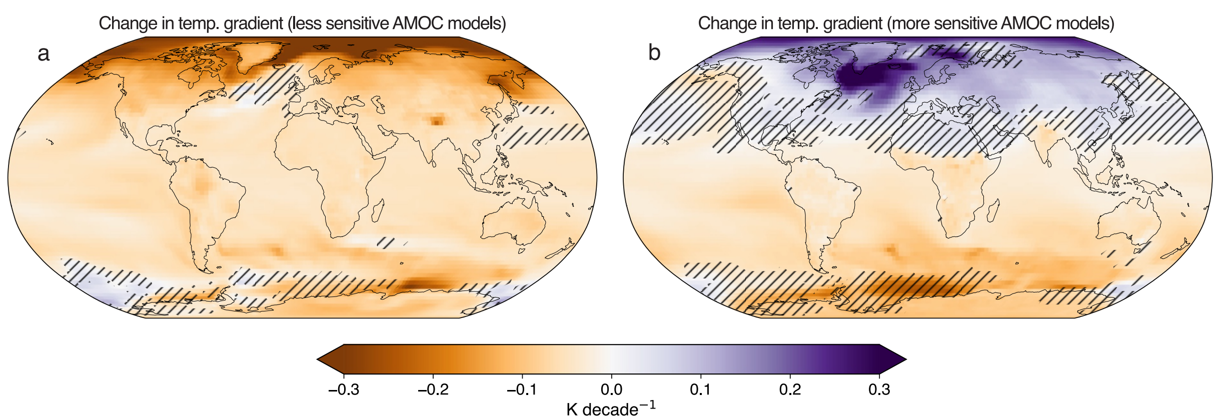


FIG. S5. As per Figure 5a, change in absolute temperature gradient between the warming and cooling periods, but for (a) the four models with the lowest AMOC sensitivity (ACCESS-ESM1-5, CanESM5, MIROC-ES2L, and UKESM1-0-LL) and (b) the four models with the highest AMOC sensitivity (CESM2, NorESM2-LM, GFDL-ESM4, and CNRM-ESM2-1). Hatching indicates where fewer than 3/4 models agree on the sign of the change.

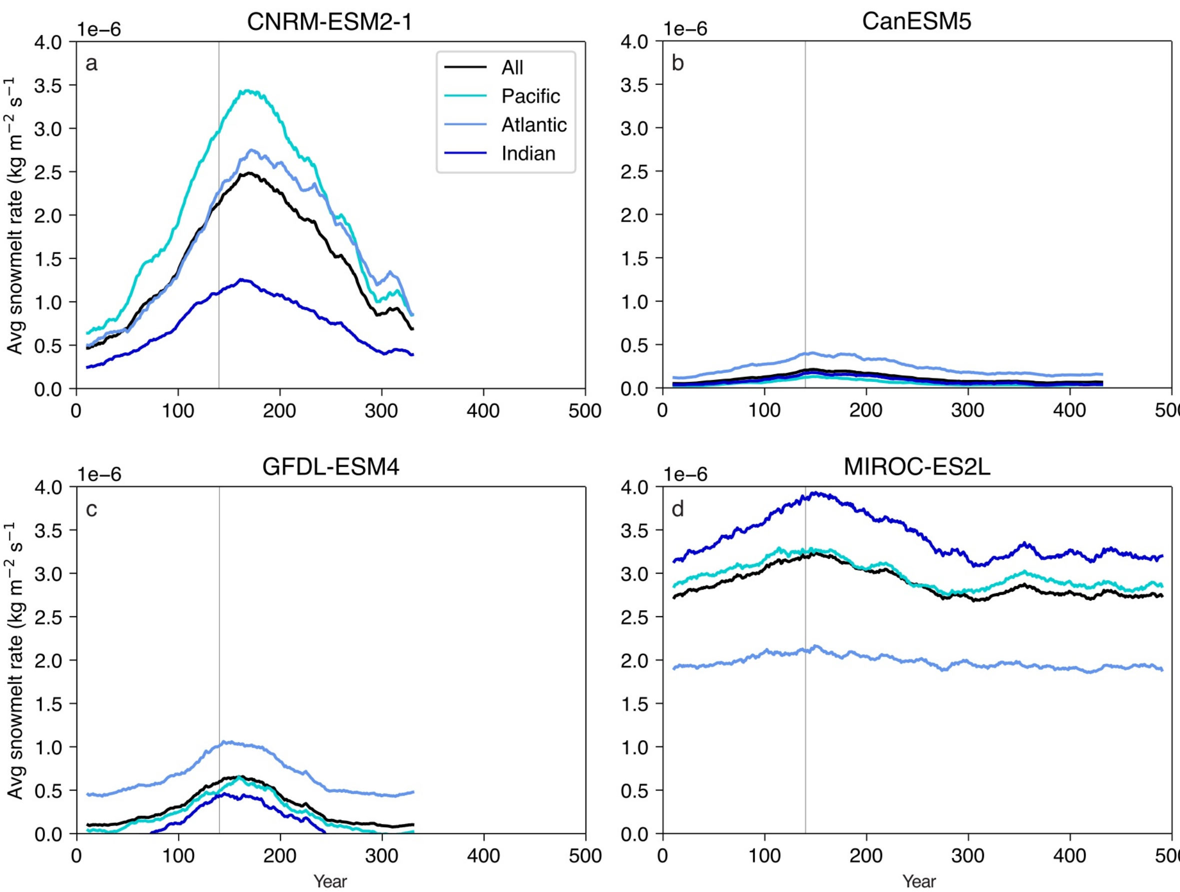


Fig. S6. Timeseries of regional-average snowmelt rates in the areas of Antarctica and the Southern Ocean south of the Pacific, Atlantic, and Indian oceans, as shown in Figure 9c, for (a) CNRM-ESM2-1, (b) CanESM5, (c) GFDL-ESM4, and (d) MIROC-ES2L.