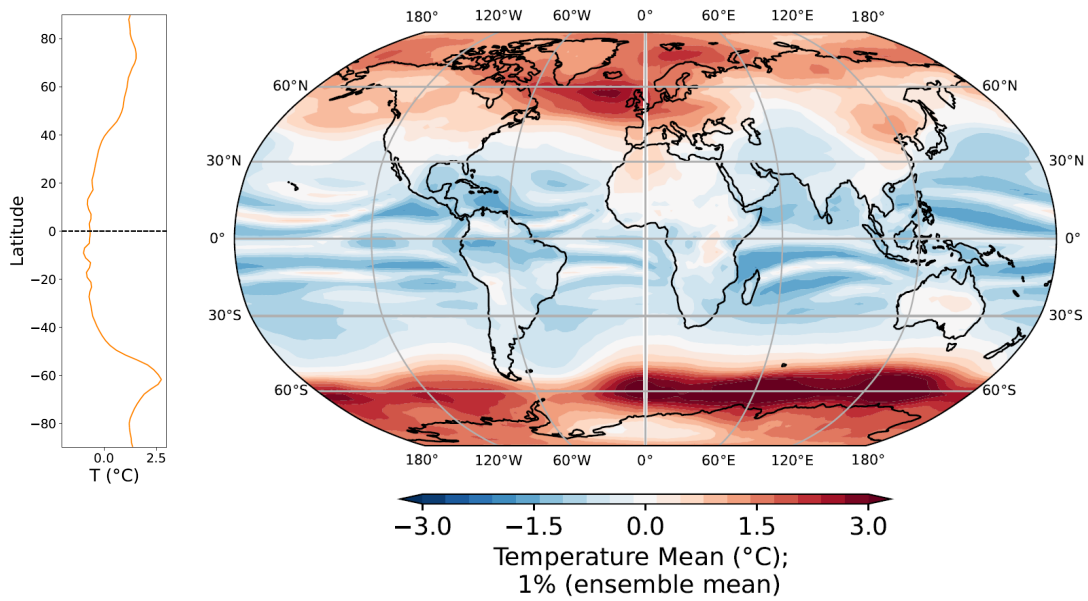# Supplementary Figures

Figure S1: **Global (right) and meridional (left) distribution of temperature (10-years average) for the 1% ensemble.** The mean from all five ensemble members is shown. The 4% ensemble is shown in Fig. 3 and individual ensemble members in Fig. S3 and S2.
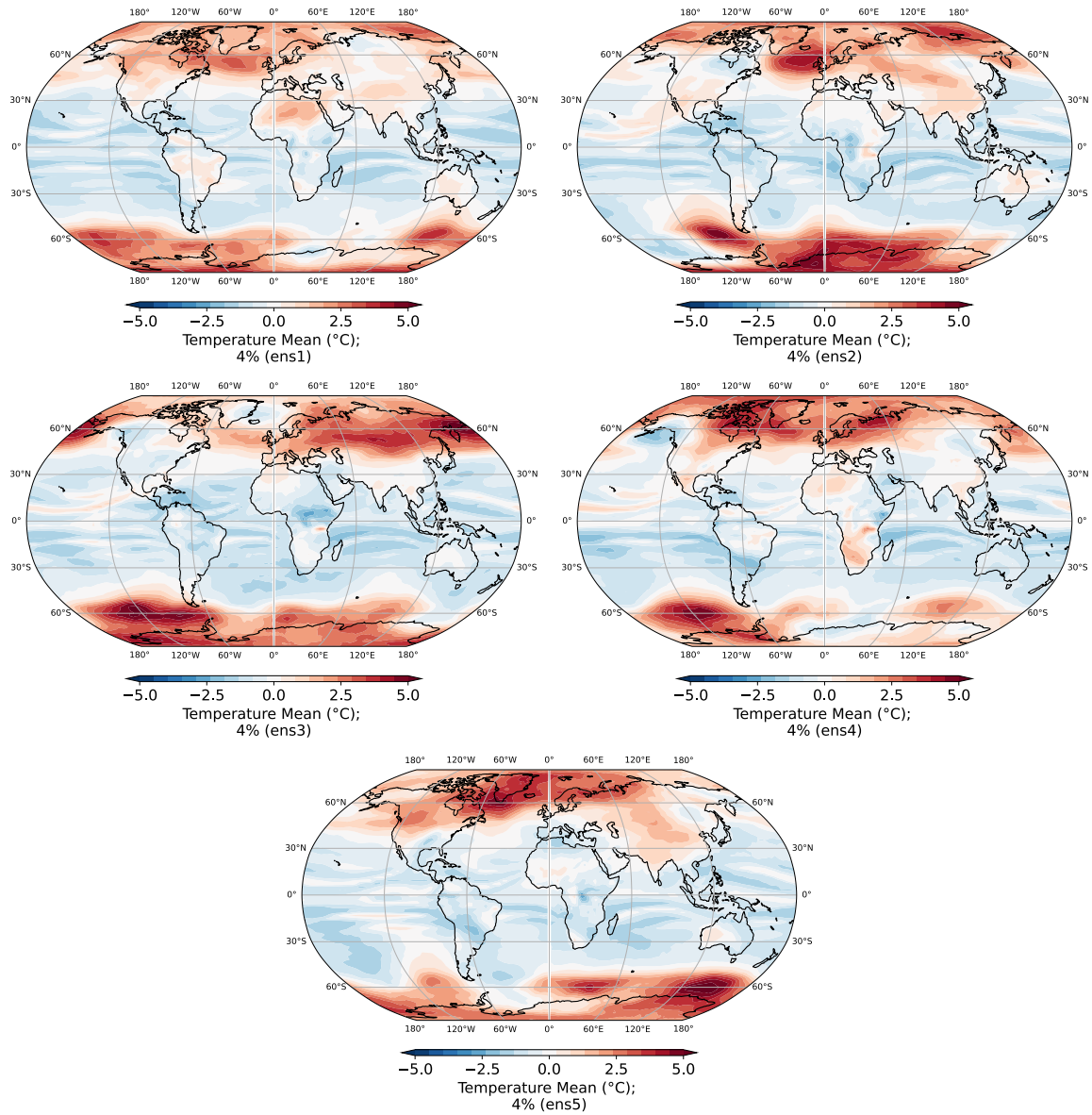
Figure S2: **Global distribution of temperature (10-years average) for individual simulations of the 4% ensemble.** As in Fig. 3 but for individual ensemble members with varying initial conditions.
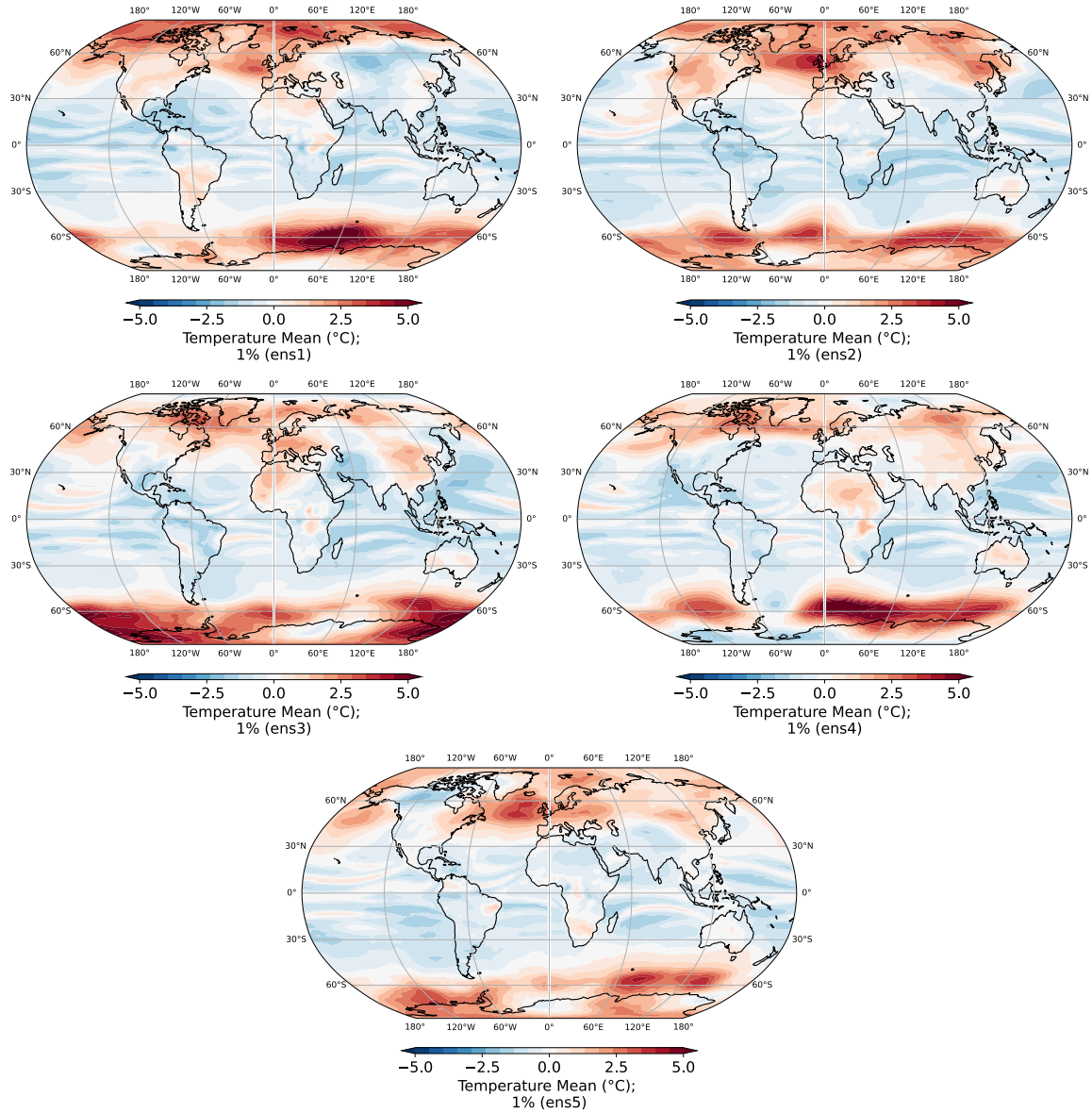
Figure S3: **Global distribution of temperature (10-years average) for individual simulations of the 1% ensemble.** As in Fig. S1 but for individual ensemble members with varying initial conditions.
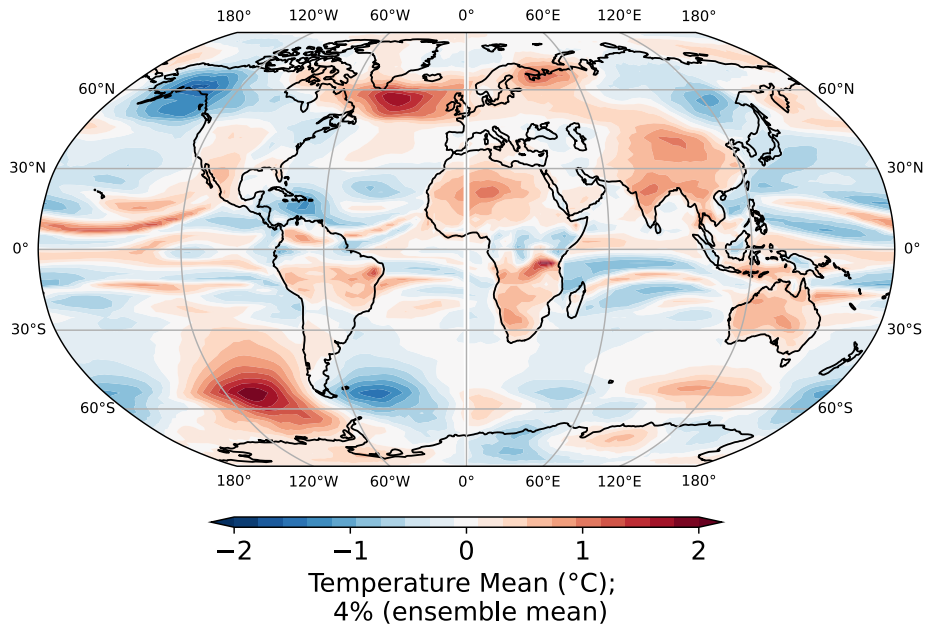
Figure S4: **Global distribution of temperature (10-years average) for the 4% ensemble.** As in Fig. 3, but for each grid cell, the value of the associated latitude mean is subtracted.
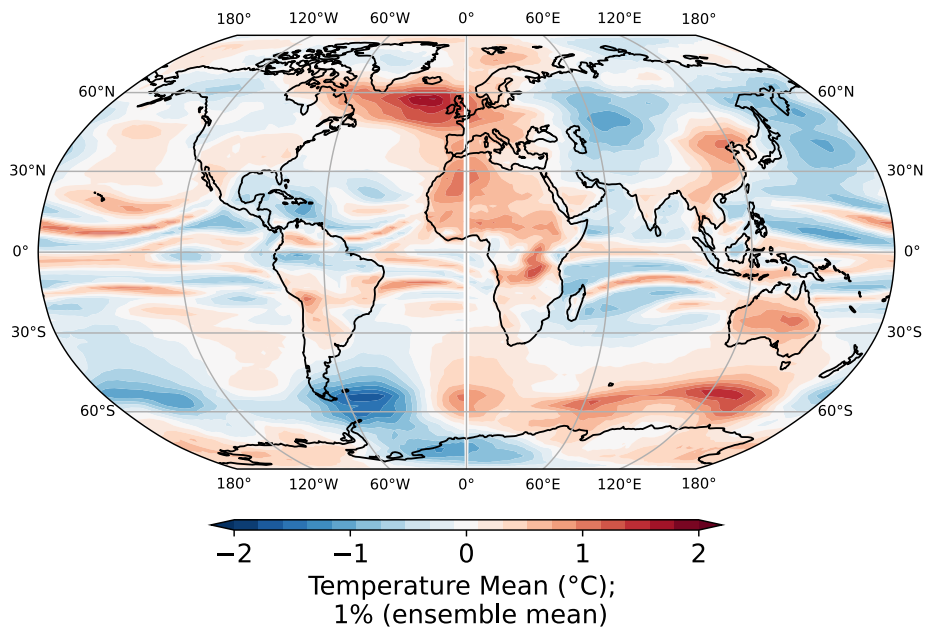

Figure S5: **Global distribution of temperature (10-years average) for the 1% ensemble.** As in Fig. S1, but for each grid cell, the value of the associated latitude mean is subtracted.
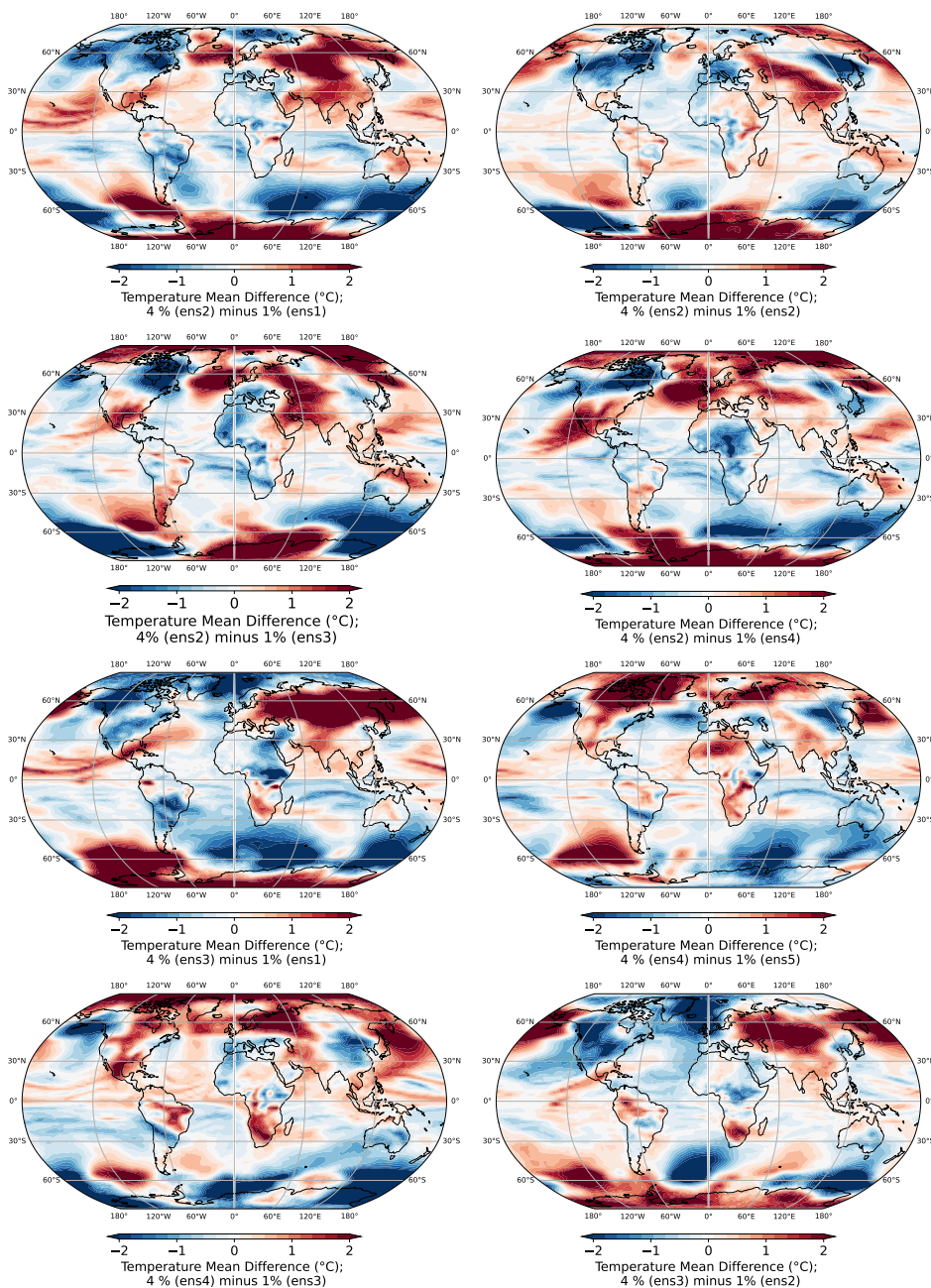
Figure S6: **Different combinations between the 4% and 1% ensemble.** As in Fig. 4 (lower left), but for different combinations between the 4% and 1% ensembles.
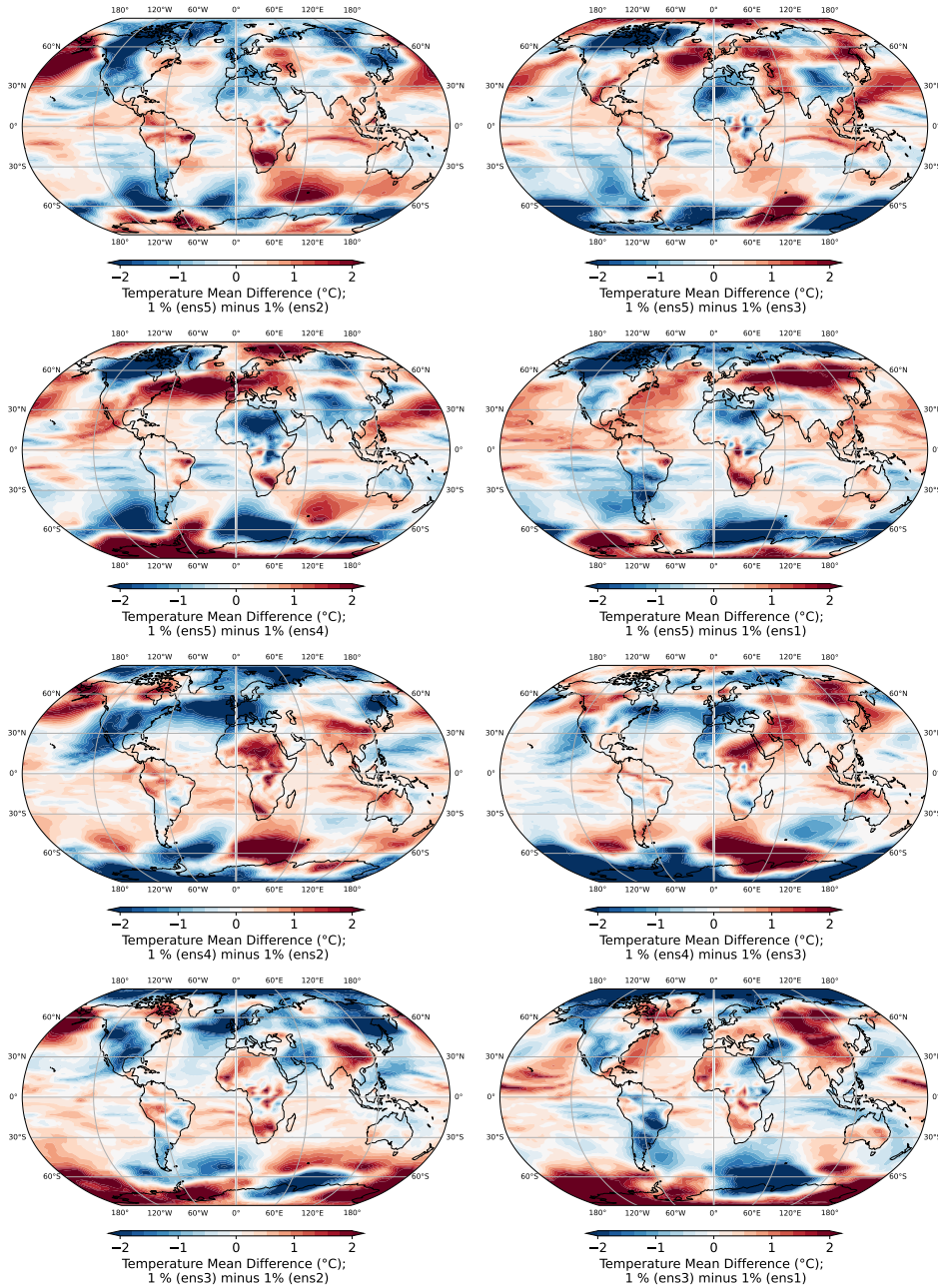
Figure S7: **Different combinations within the 1% ensemble.** As in Fig. 4 (lower right), but for different combinations within the 1% ensemble.
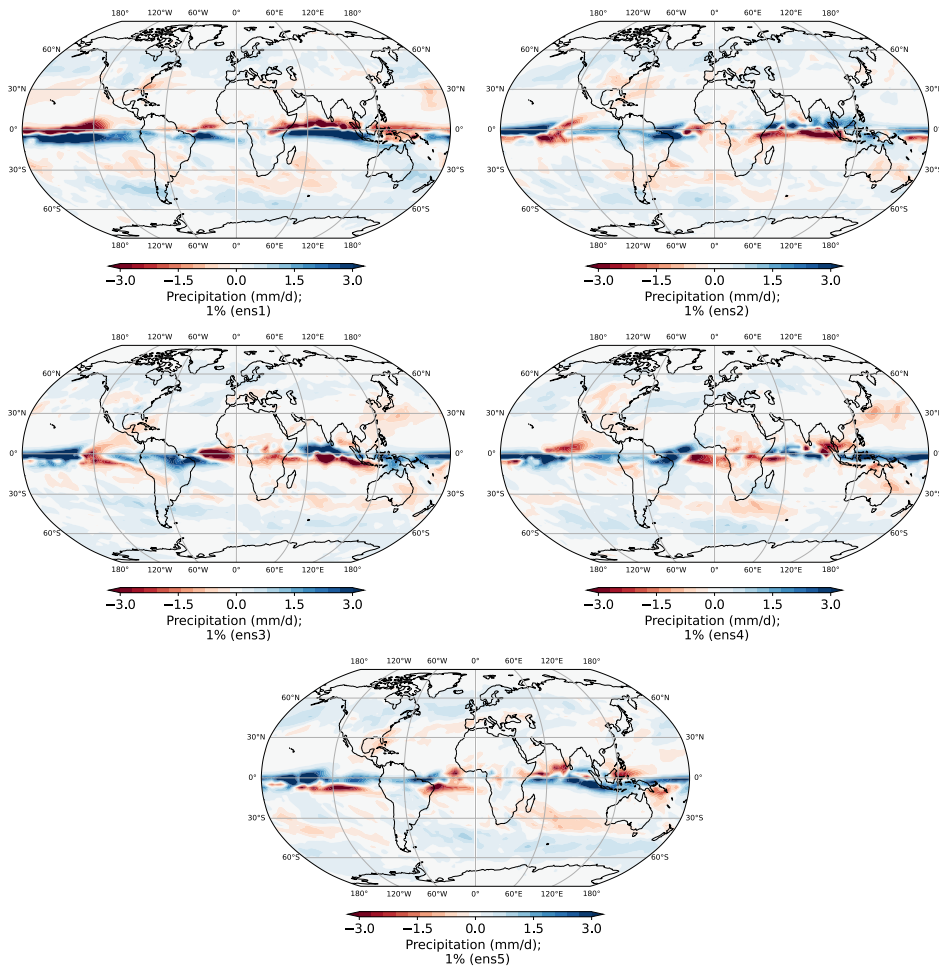
Figure S8: **Global distribution of precipitation changes (10-years average) compared to preindustrial equilibrium.** As in Fig. 6 (left) but for individual ensemble members.
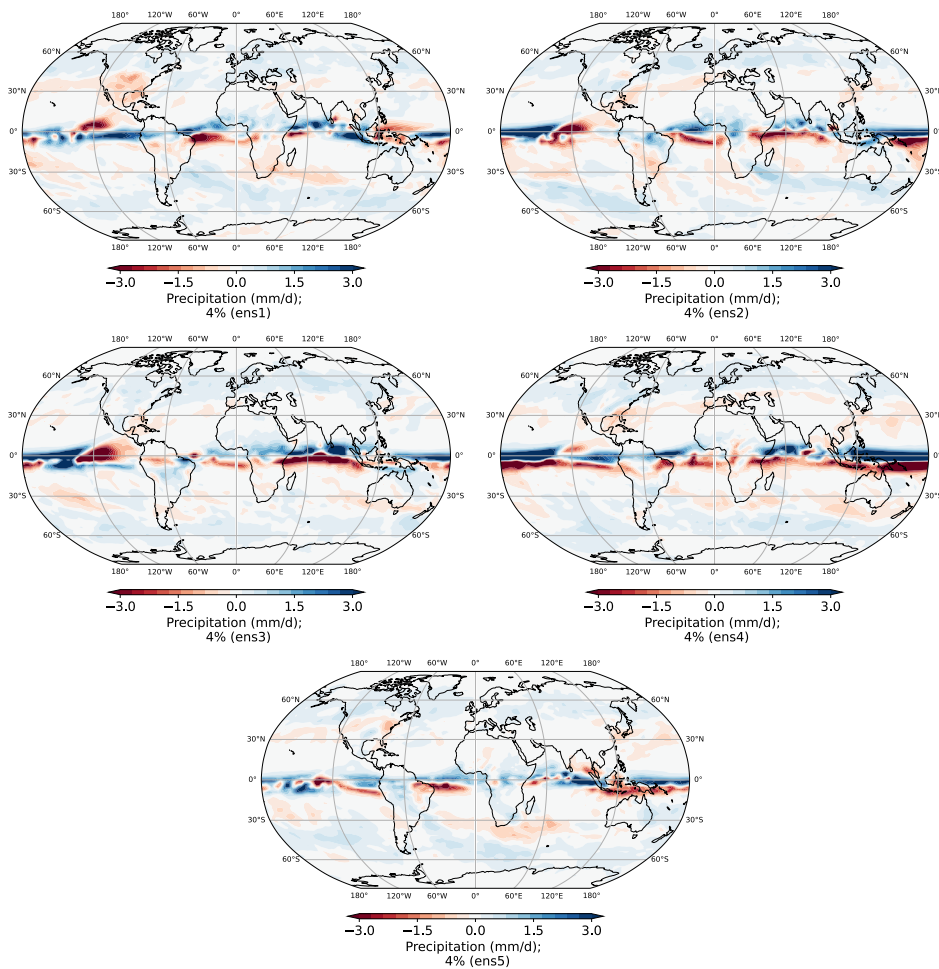
Figure S9: **Global distribution of precipitation changes (10-years average) compared to preindustrial equilibrium.** As in Fig. 6 (right) but for individual ensemble members.
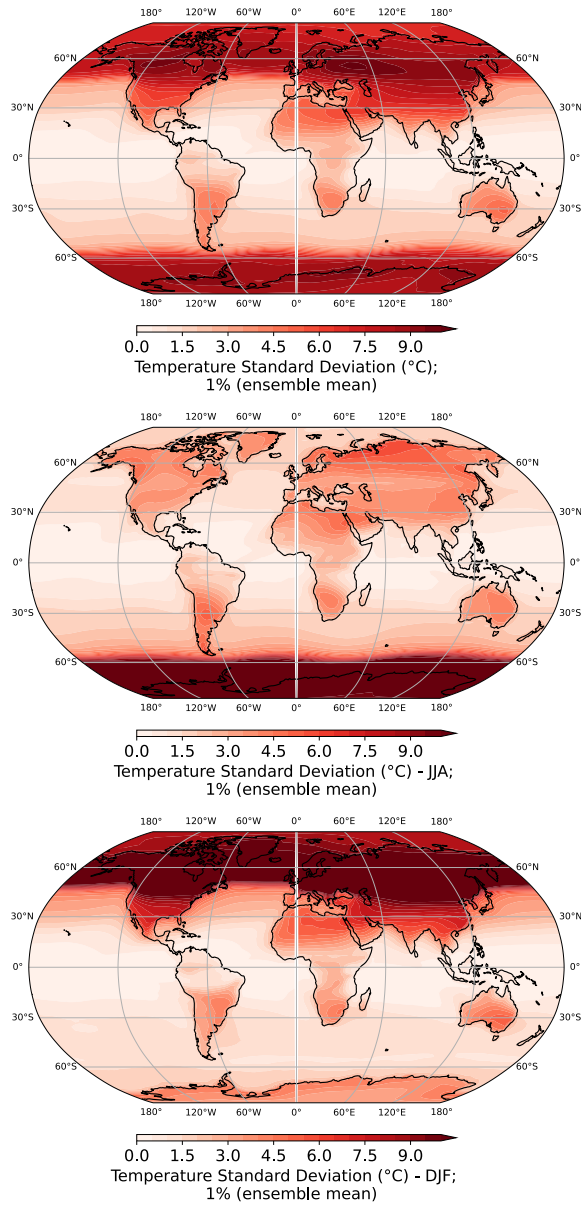
Figure S10: **Day-to-day variability of temperature for the entire year (upper panel), June to August (middle panel) and December to February (lower panel).** The land shows higher variability compared to the ocean. The higher latitudes that are seasonally covered by sea ice or snow also exhibit a higher variability. The figure is based on the 1% ensemble.
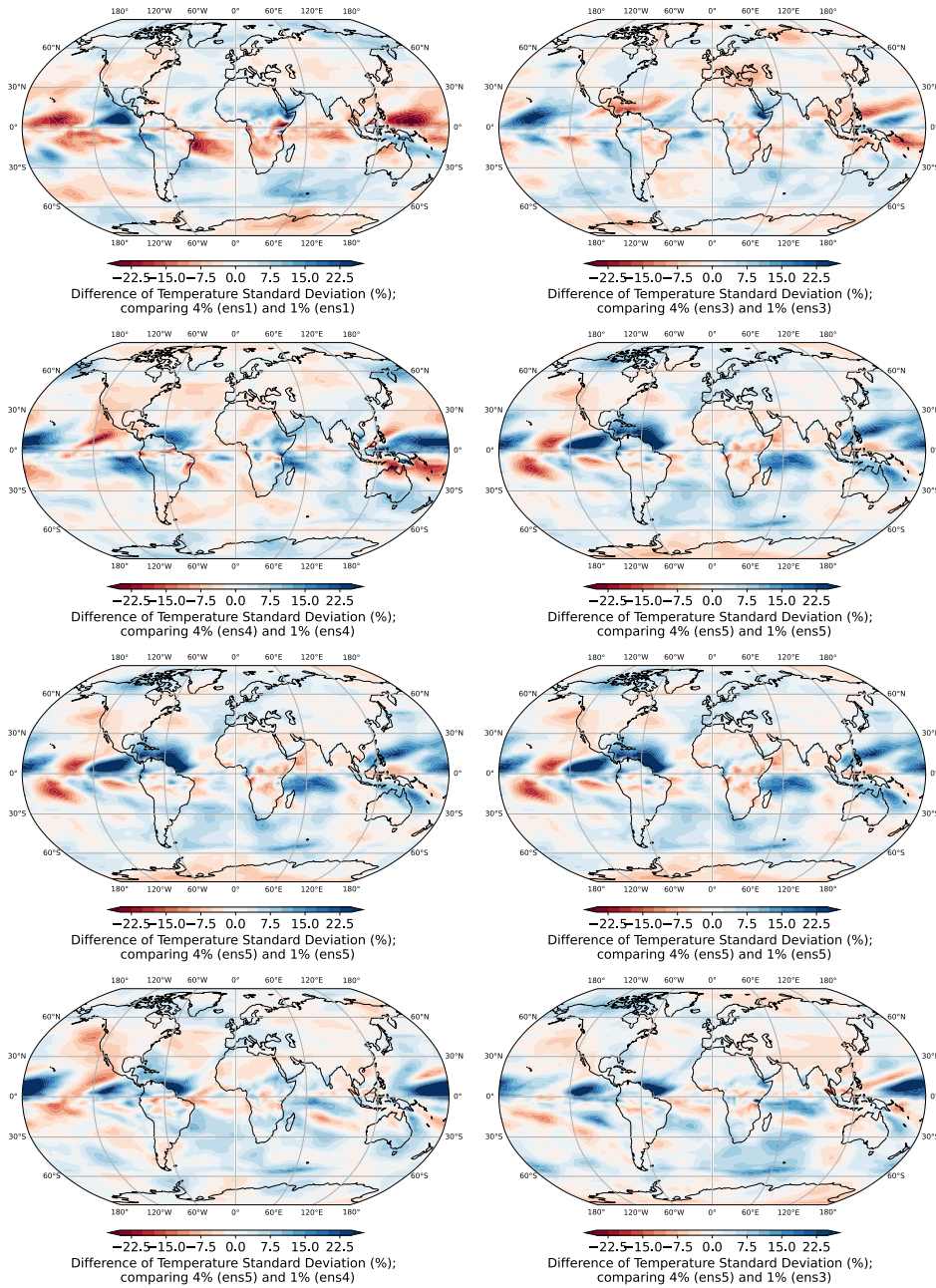
Figure S11: **Different ensemble combinations of relative difference in the day-to-day temperature variability between 4% and 1% simulations for entire year**. As Fig. 7 (left) but for different ensemble combinations.
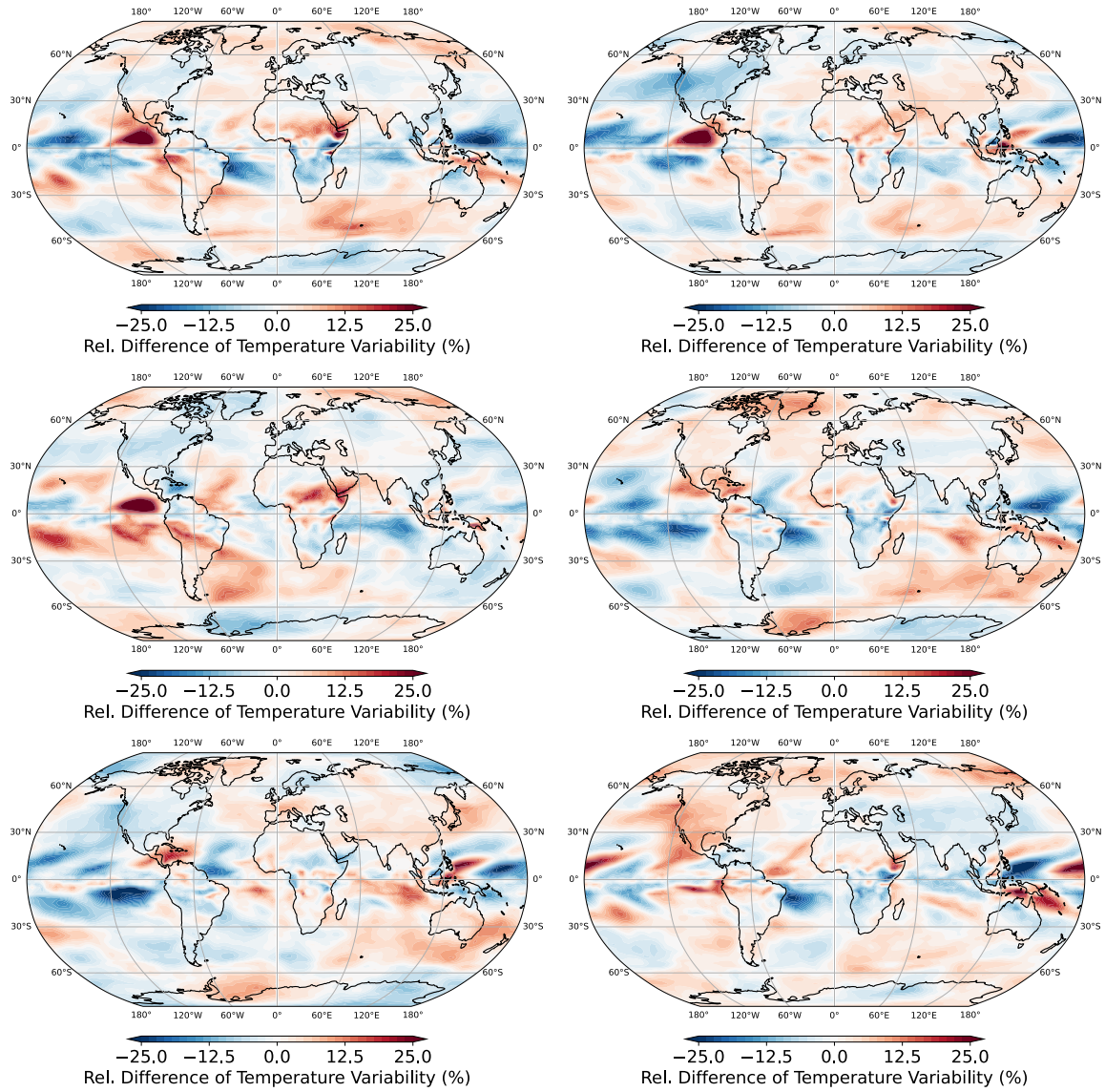
Figure S12: **Robustness check of temperature variability pattern regarding the combination of different simulations.** As in Fig. 7 but combining different simulations (for the entire year). From left to right and top down: 4% and 1% (as presented in the main manuscript), 4% and 2%, 4% and 3%, 3% and 1%, 3% and 2%, 2% and 1%.
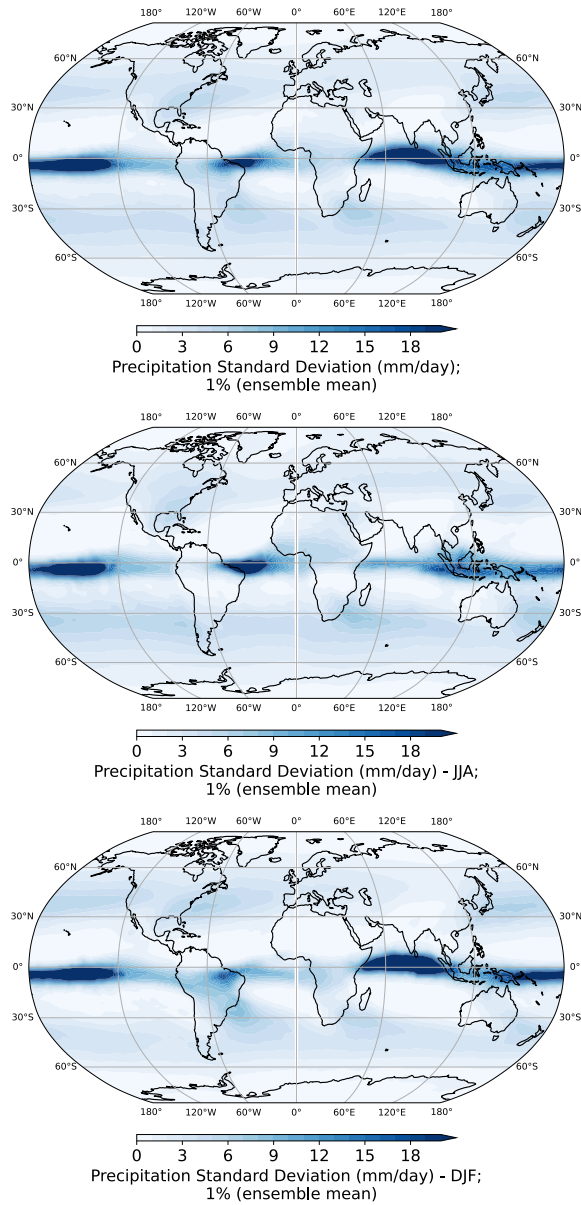
Figure S13: **Day-to-day variability of precipitation for the entire year (upper panel), June to August (middle panel) and December to February (lower panel).** The variability is largest in the ITCZ, but also the storm tracks in the mid latitudes show increased variability. The figure is based on the 1% ensemble.
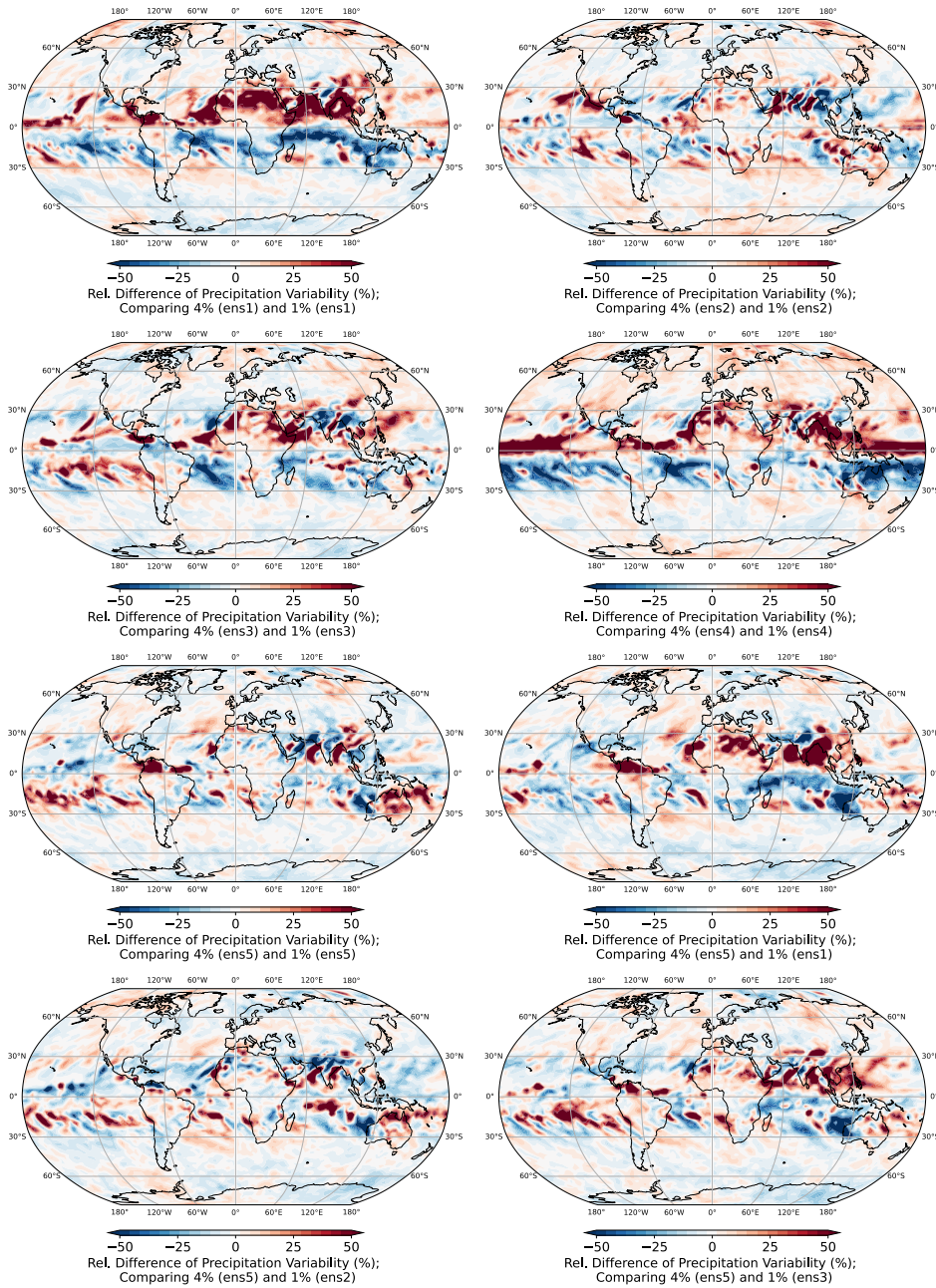
Figure S14: **Different ensemble combinations of relative difference in the day-to-day precipitation variability between 4% and 1% simulations for entire year**. As Fig. 8 (left) but for different ensemble combinations.
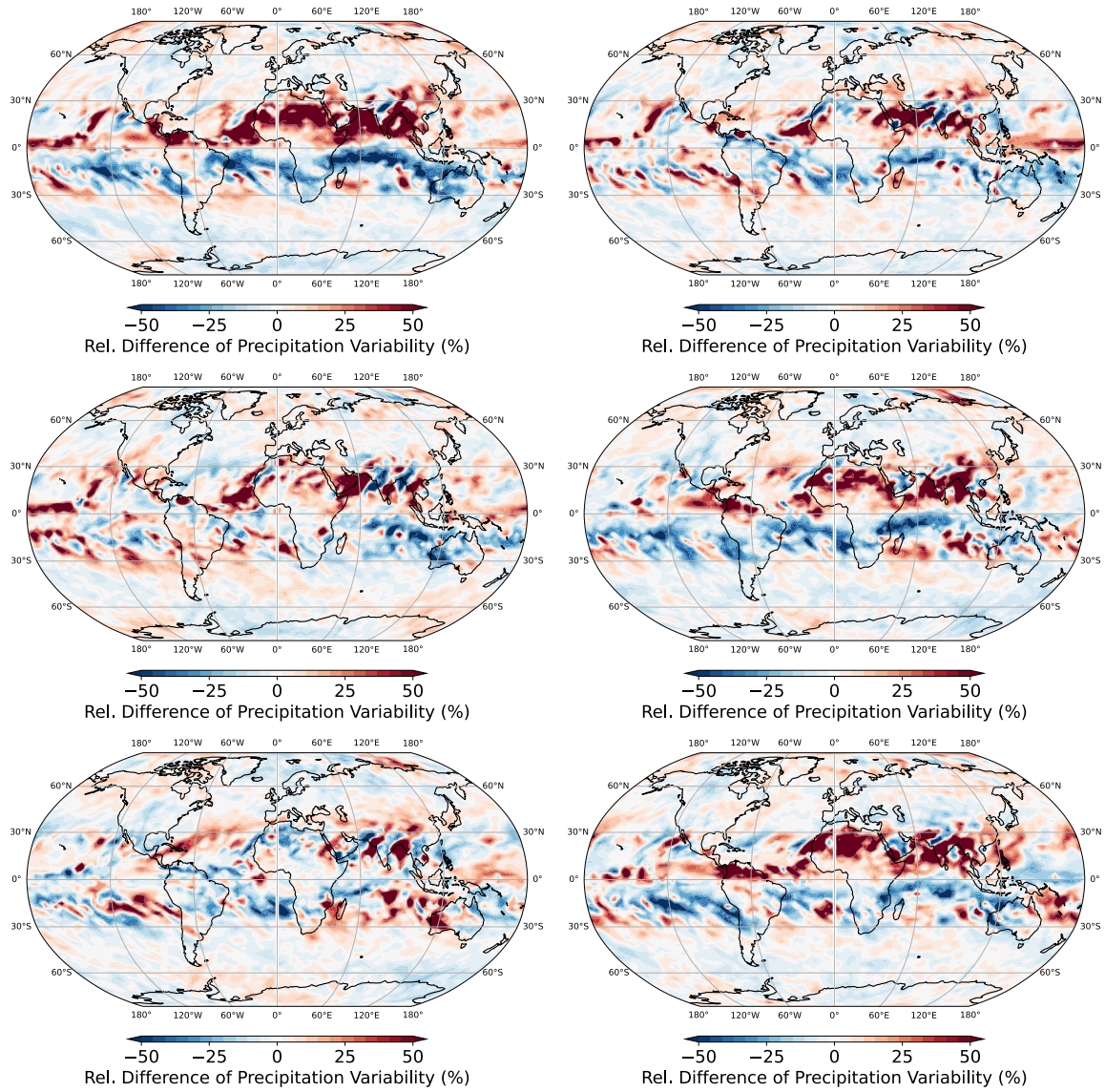
Figure S15: **Robustness checkof precipitation variability pattern regarding the combination of different simulations.** As in Fig. 8 but combining different simulations (for the entire year). From left to right and top down: 4% and 1% (as presented in the main manuscript), 4% and 2%, 4% and 3%, 3% and 1%, 3% and 2%, 2% and 1%.