

Fig. R1 Cumulative distribution of the number of pixels based on the fraction of deforestation. The magnitude of deforestation (as shown by the number of deforested pixels) in the *deforest_glob* simulation is most similar to the ‘1 out of 4’ and ‘2 out of 4’ experiments from the study of Winckler et al. (2019), where one or two out of four grid cells, respectively, are completely deforested. Therefore, we use these two experiments for further comparison with our results.

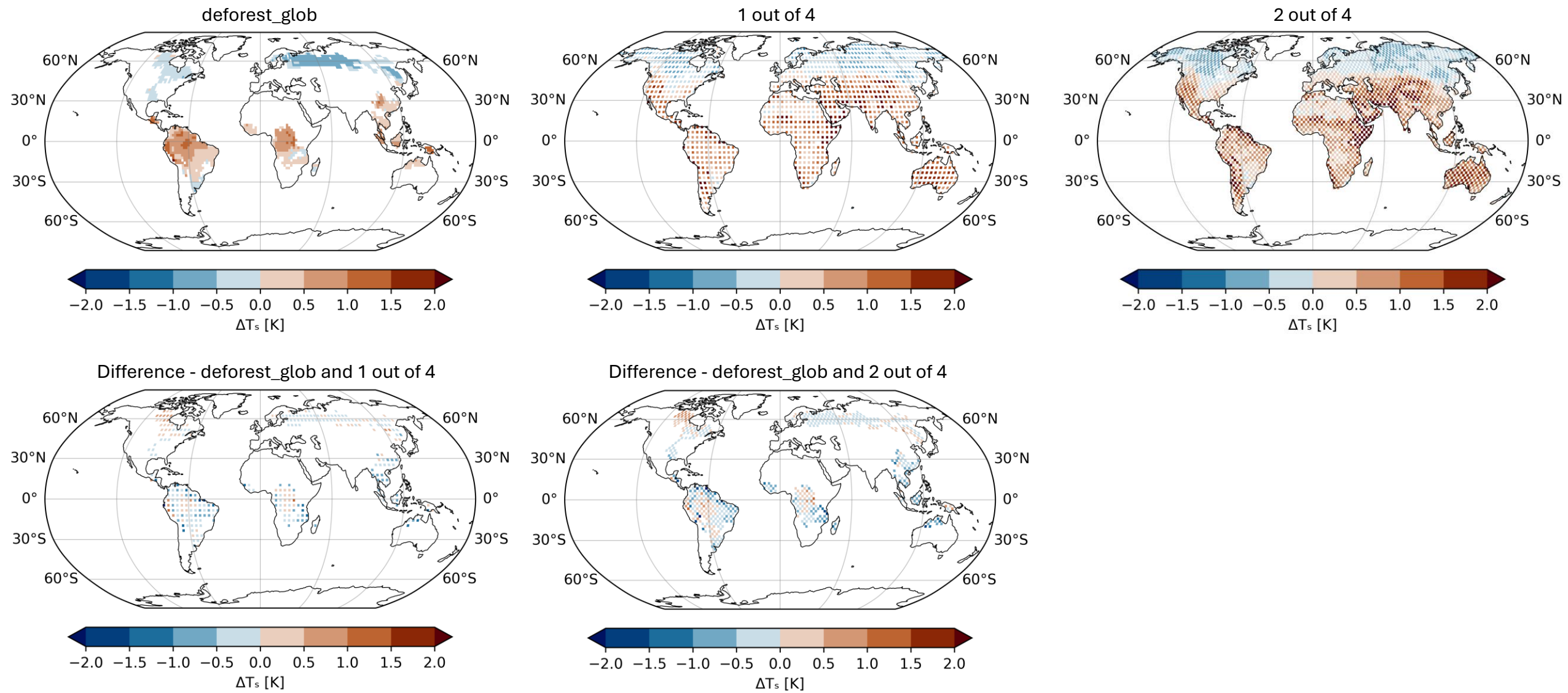


Fig. R2 Comparison between the local effects in the *deforest-glob* simulation and the chessboard pattern simulations of Winckler et al. (2019). All simulations are performed with MPI-ESM.

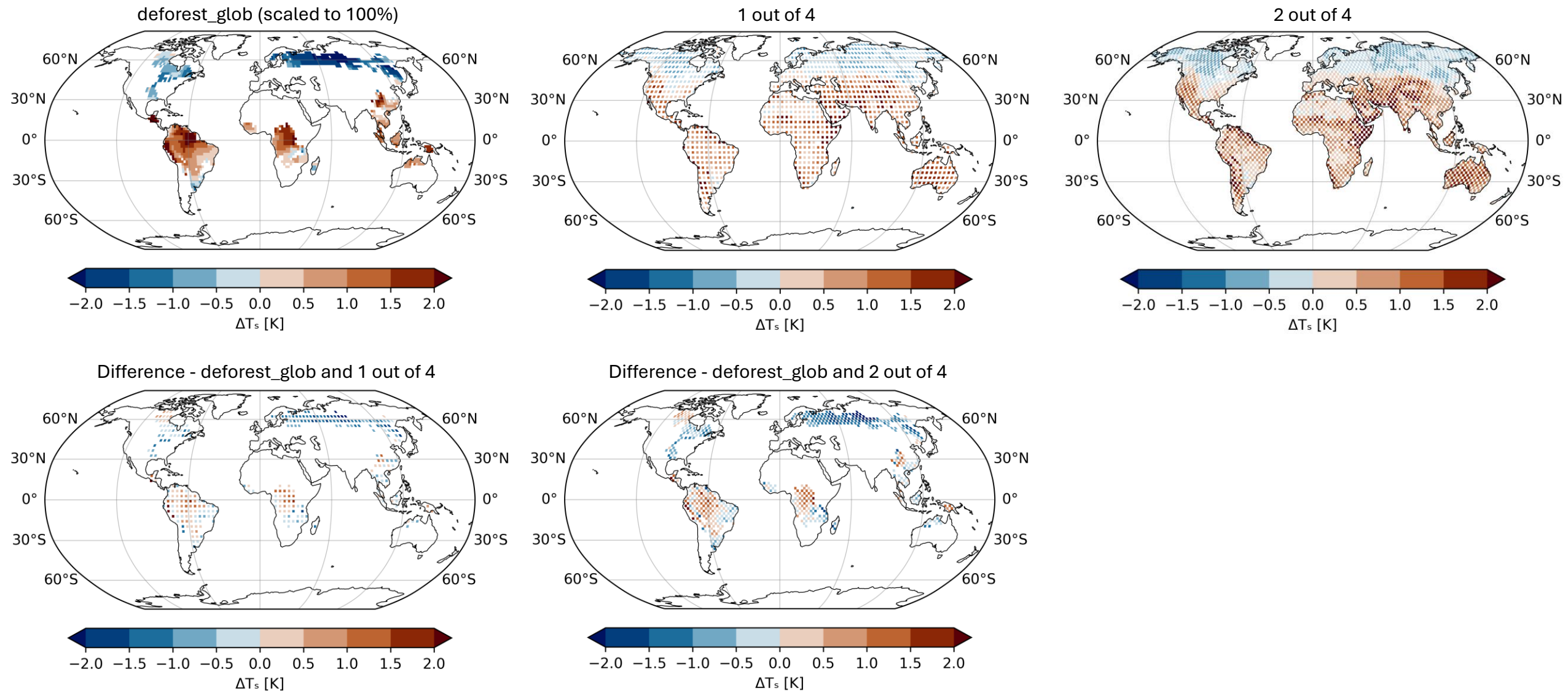


Fig. R3 Comparison between the local effects in the *deforest-glob* simulation with scaling to 100% applied and the chessboard patter simulations of Winckler et al. (2019). All simulations are performed with MPI-ESM.

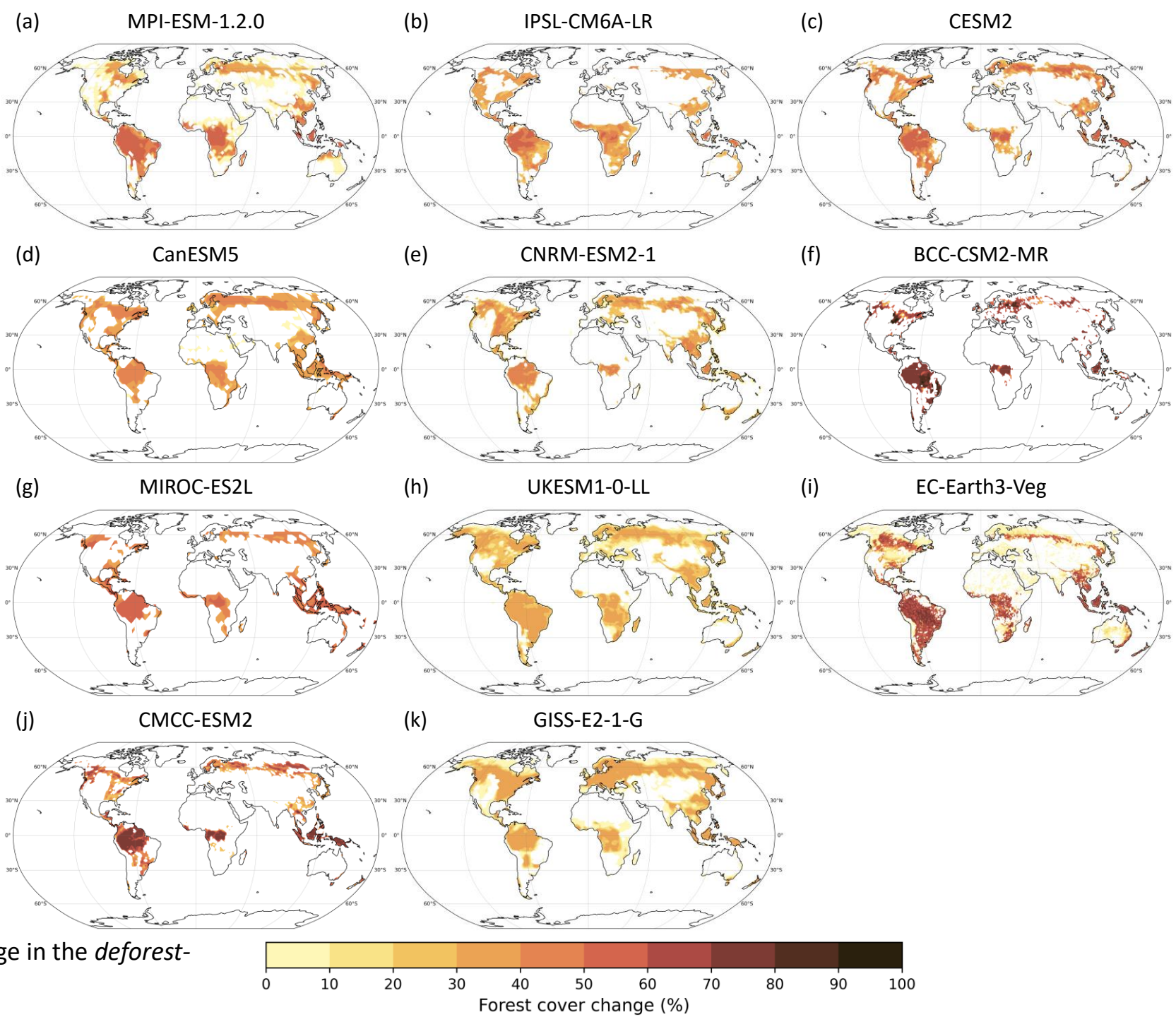


Fig. R4 Forest cover change in the *deforest-glob* simulation

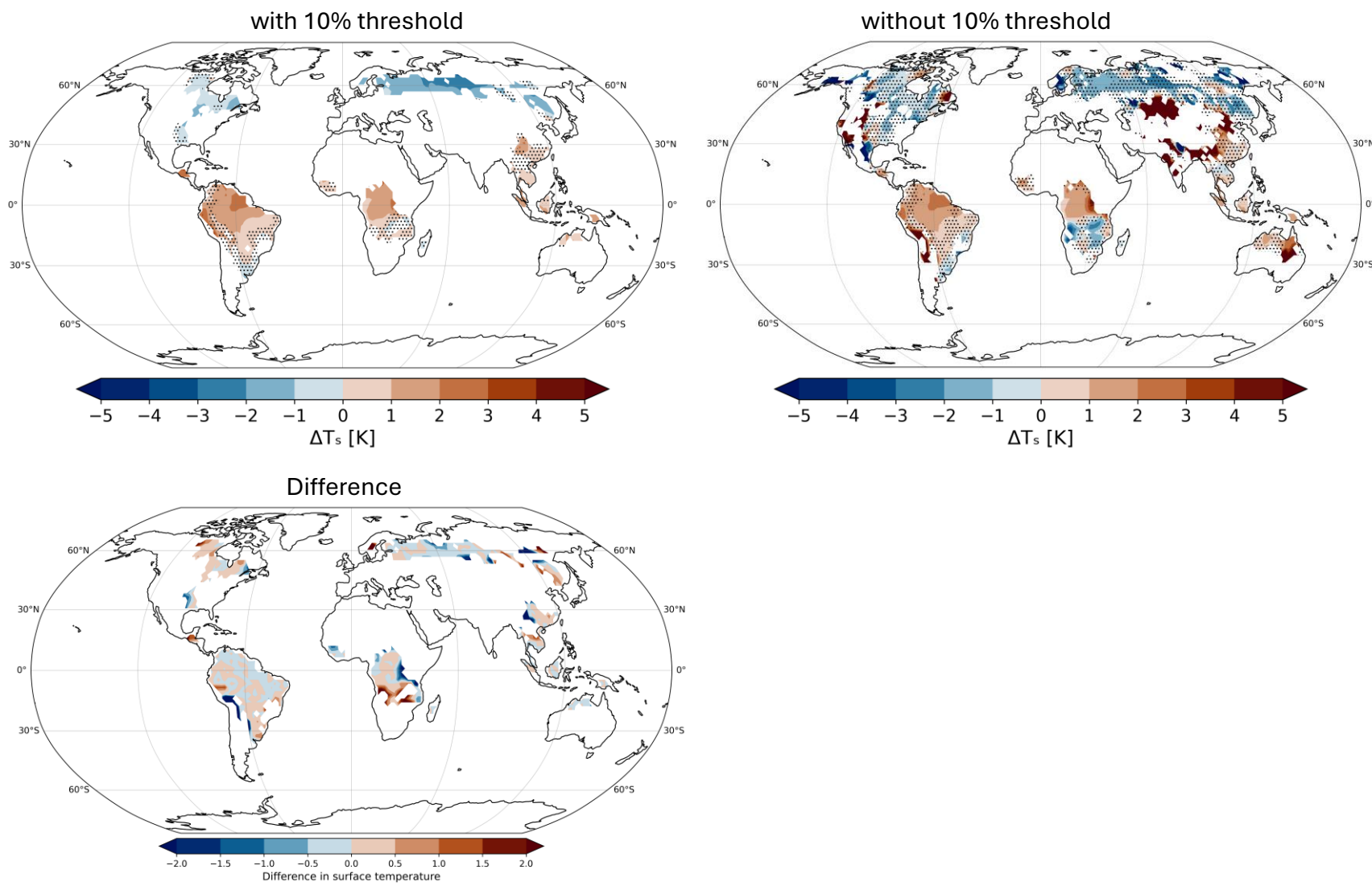


Fig. R5 Comparison between the local effects in the *deforest-glob* simulation with and without the 10% threshold being applied. All simulations are performed with MPI-ESM.