Supplementary information to *An ensemble approach to simulate* CO_2 *emissions from natural fires*

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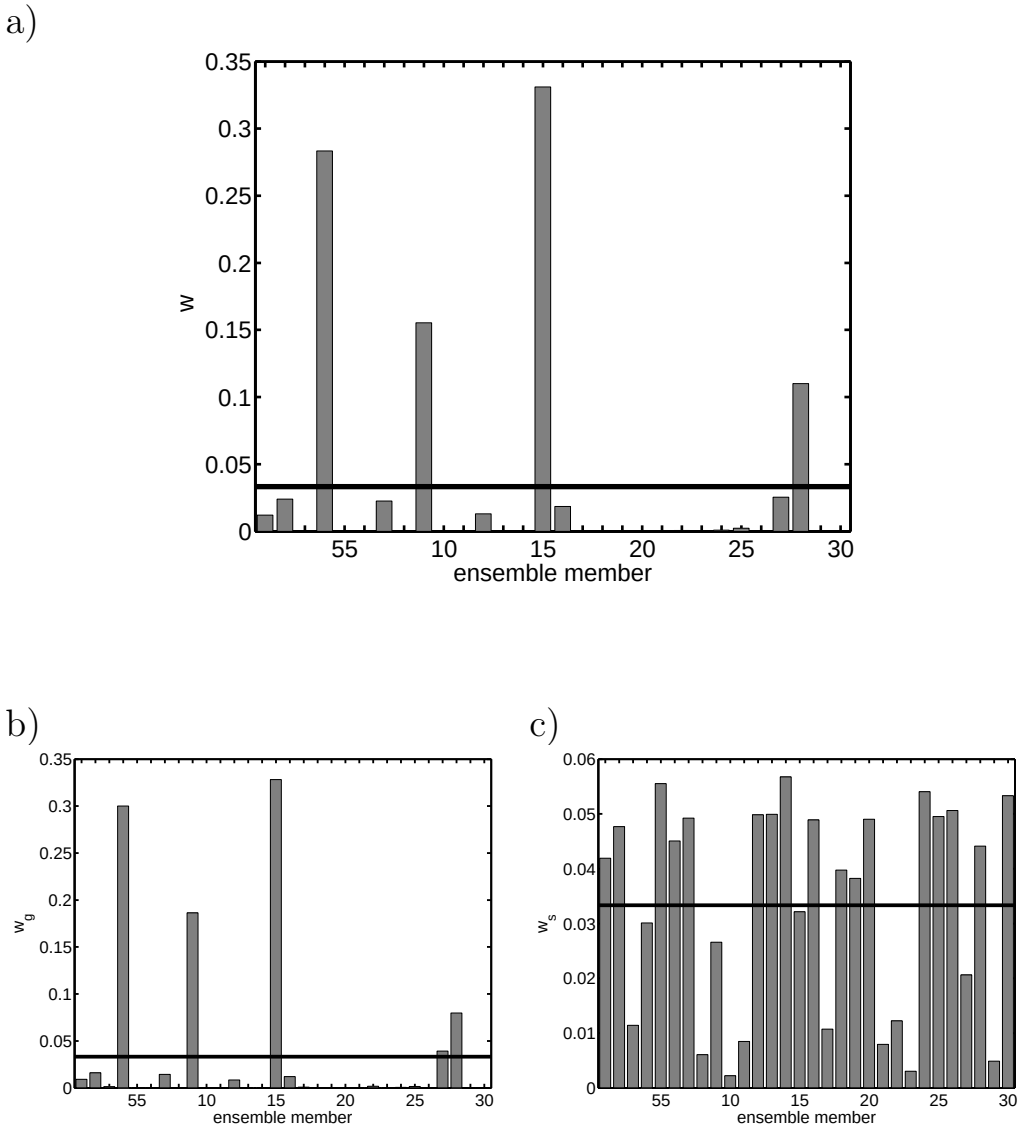
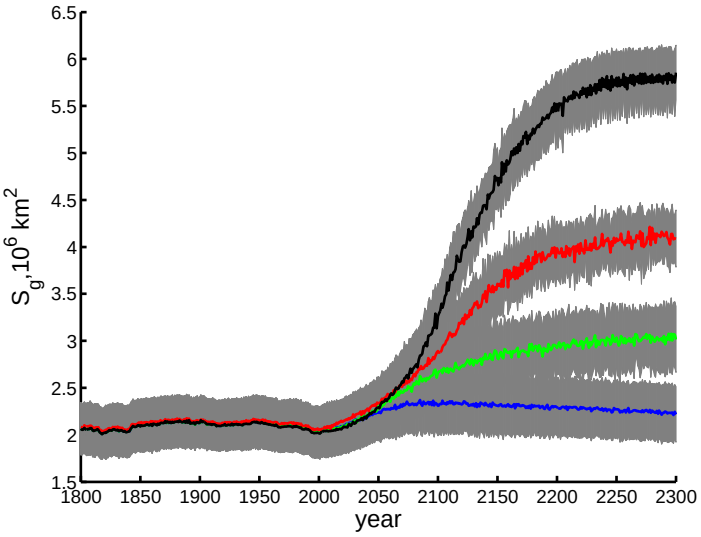


Figure S1: Bayesian weights of ensemble members (**a**), and the respective terms w_g and w_s (**b** and **c** correspondingly). In all panels, horizontal line shows the value $1/K = 1/30$, which corresponds to equally–weighted ensemble members averaging.

a)



b)

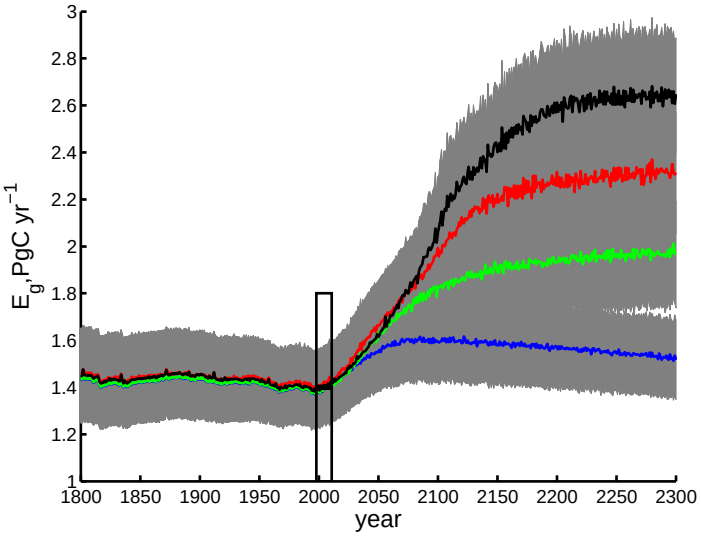


Figure S2: Similar to Fig. 2 of the main text but when only the ensemble members with Bayesian weights $w_k \geq 1/K$ are retained in the averaging.

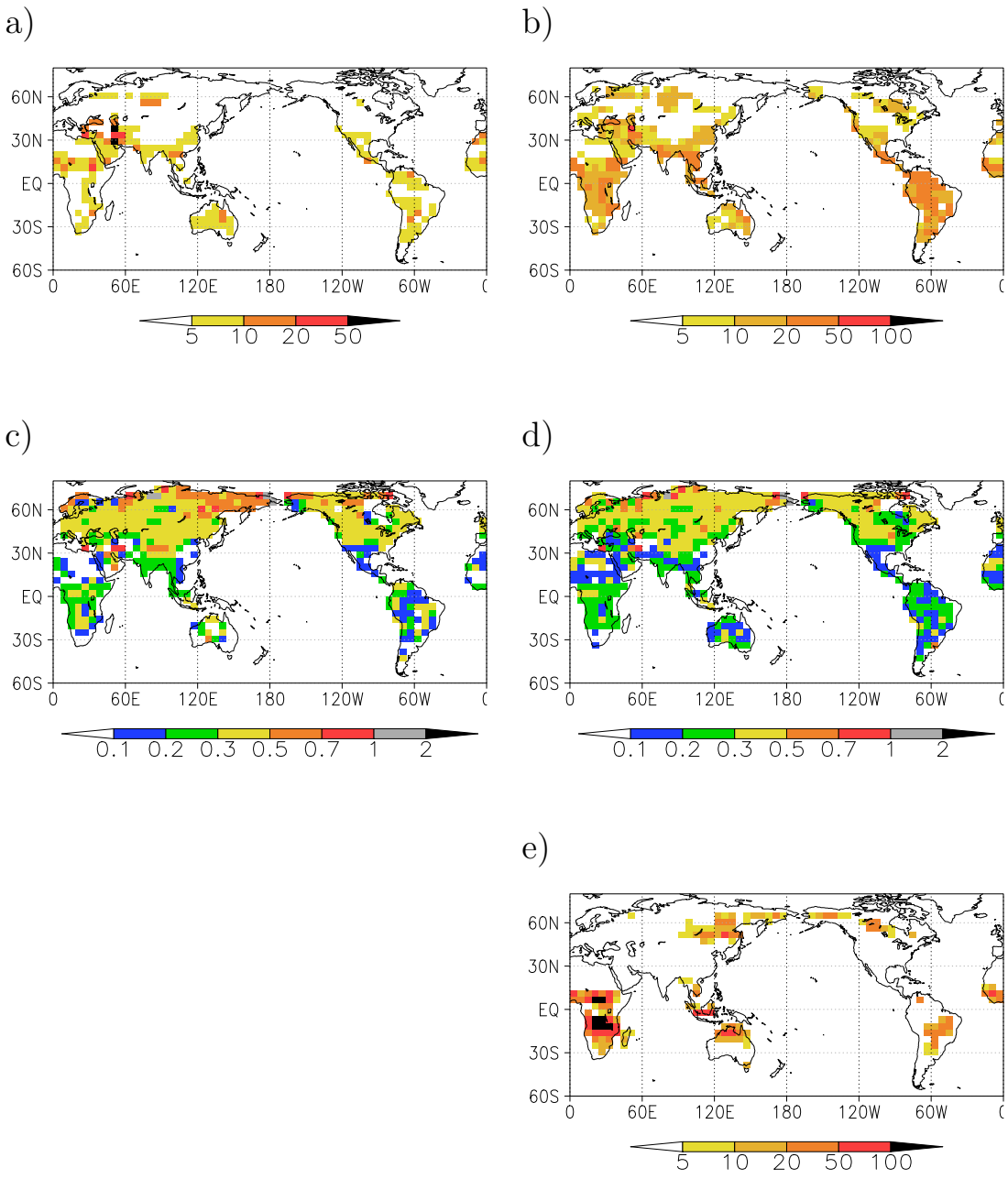


Figure S3: Similar to Fig. 3 of the main text but when only the ensemble members with Bayesian weights $w_k \geq 1/K$ are retained in the averaging.

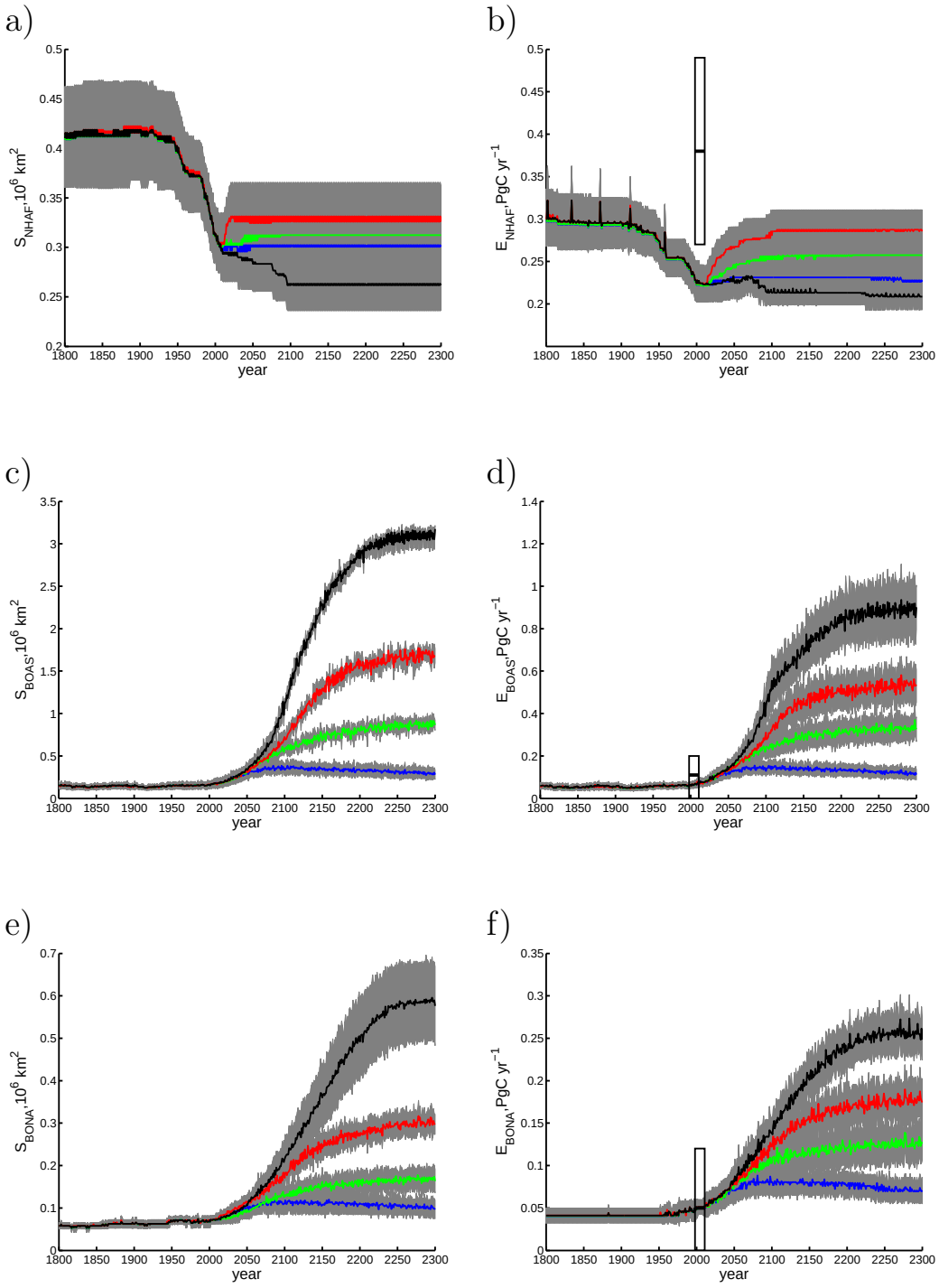


Figure S4: Similar to Fig. 4 of the main text but when only the ensemble members with Bayesian weights $w_k \geq 1/K$ are retained in the averaging.

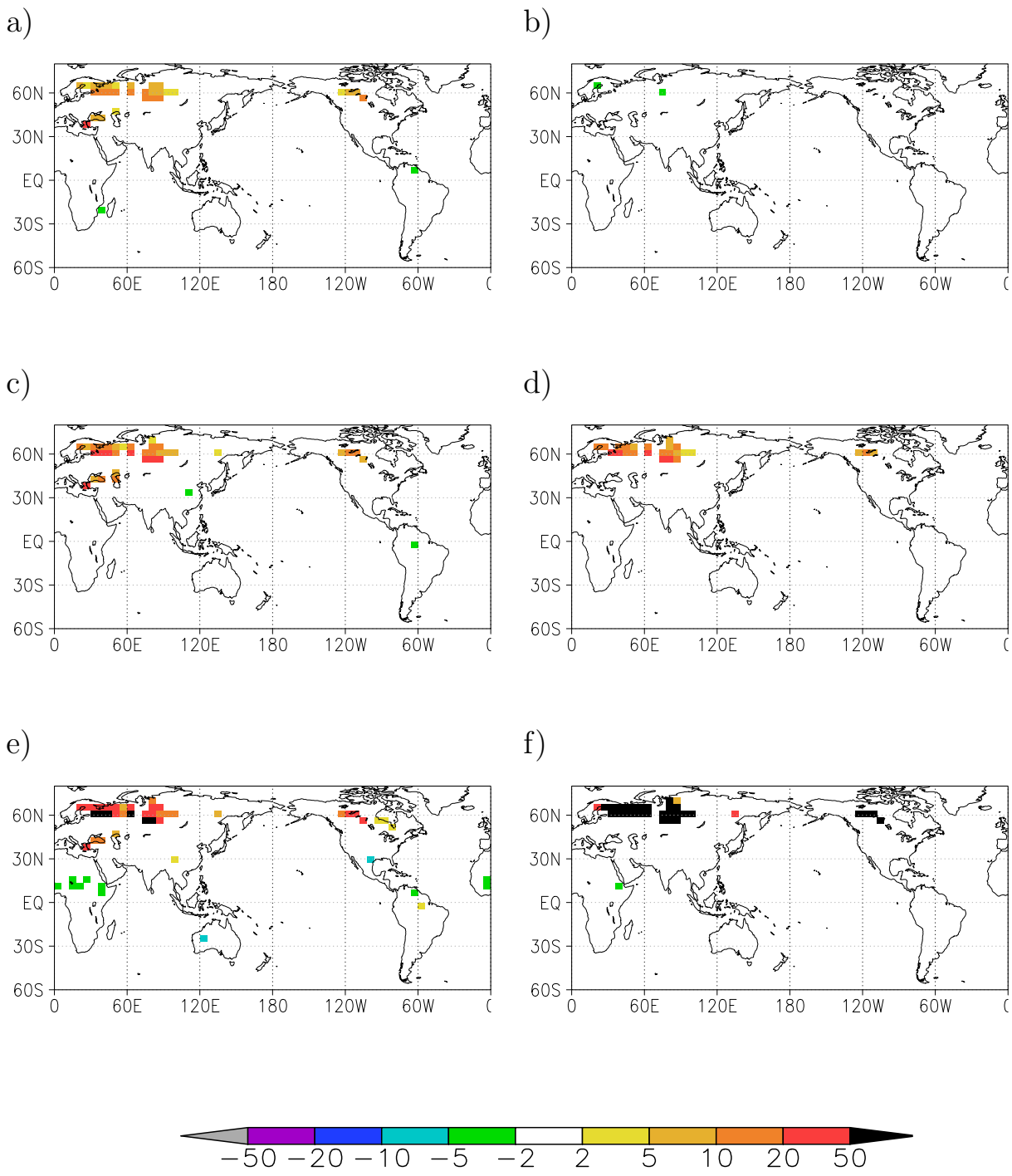


Figure S5: Similar to Fig. 5 of the main text but when only the ensemble members with Bayesian weights $w_k \geq 1/K$ are retained in the averaging.

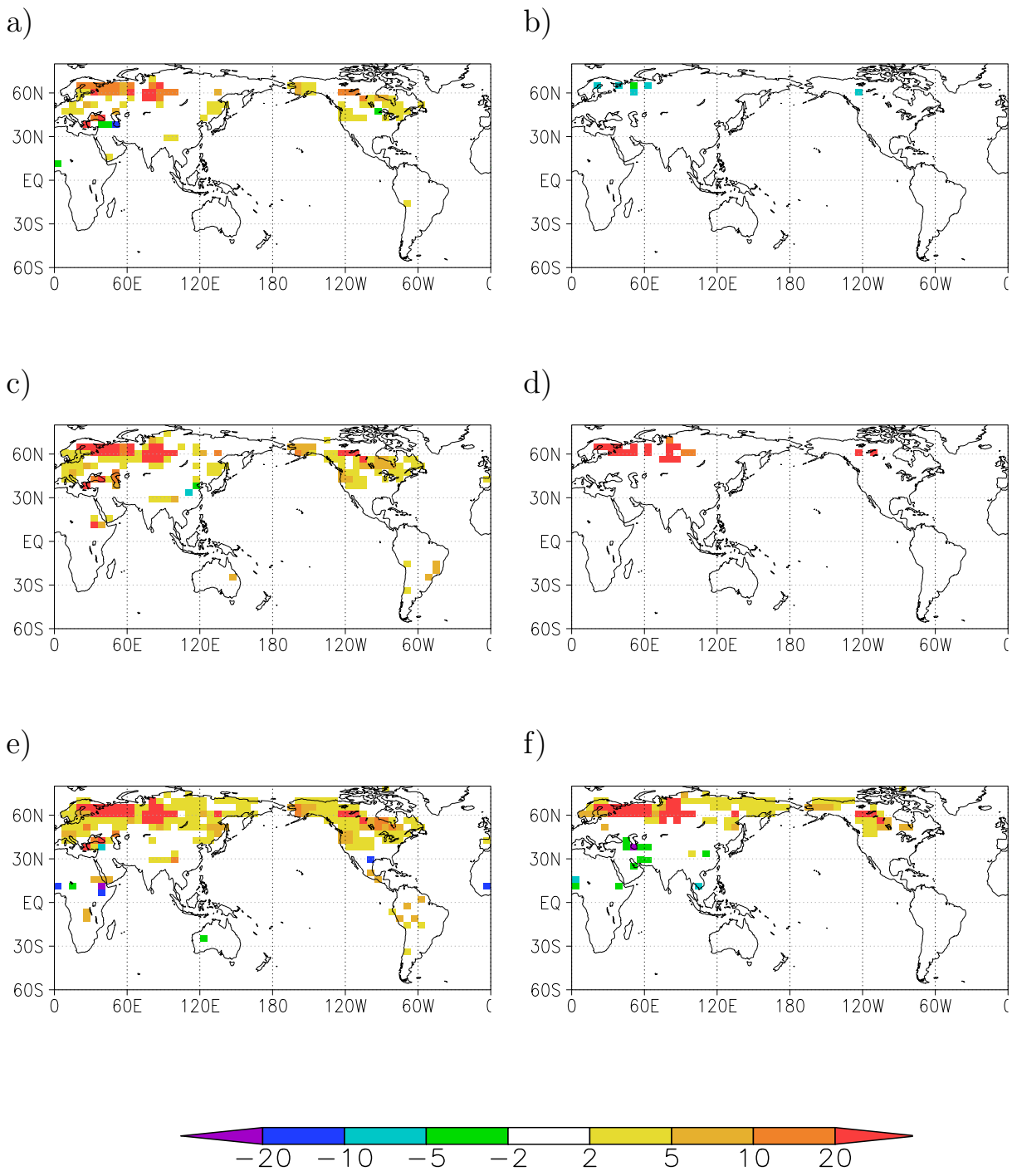


Figure S6: Similar to Fig. 6 of the main text but when only the ensemble members with Bayesian weights $w_k \geq 1/K$ are retained in the averaging.

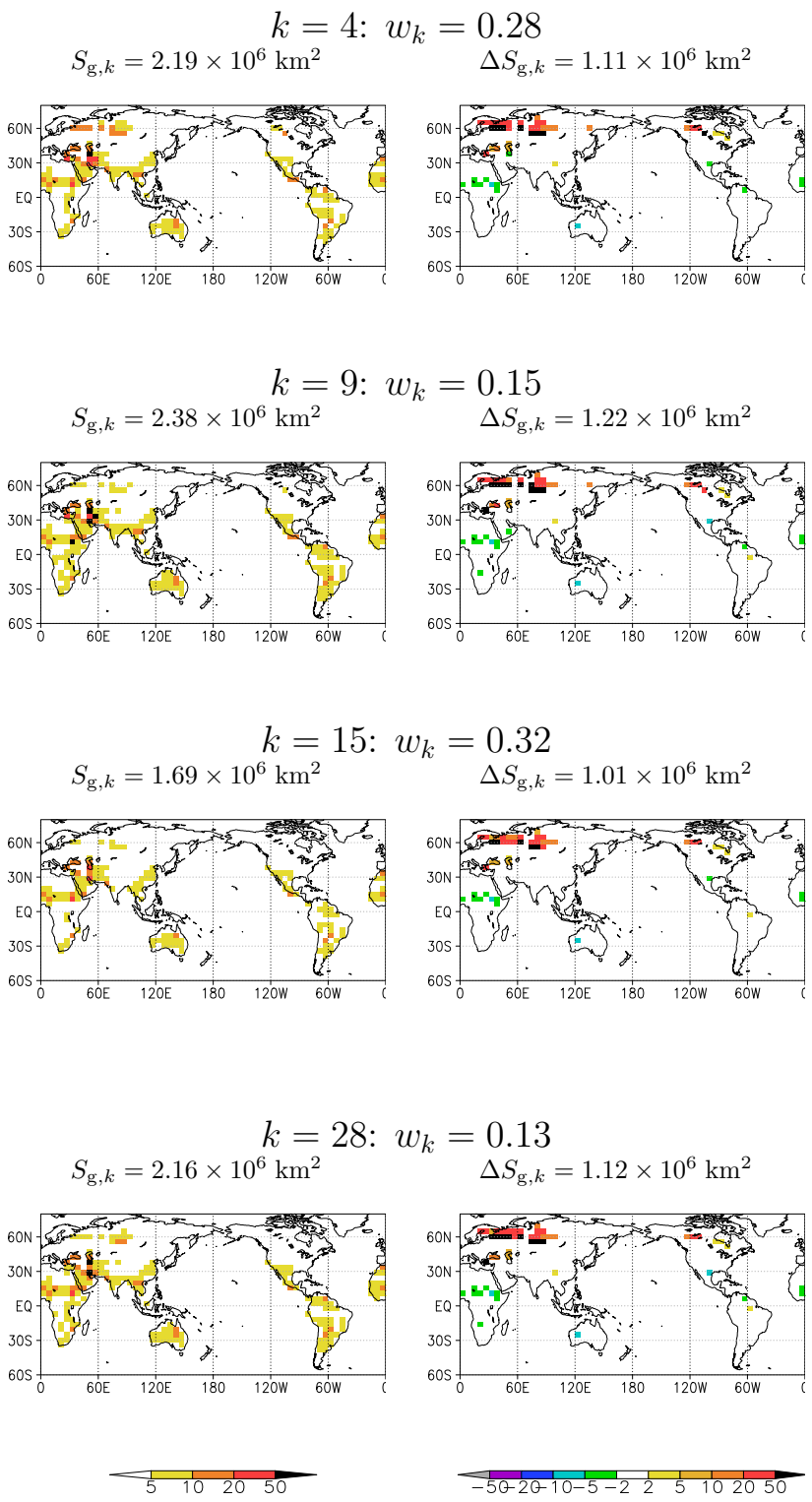


Figure S7: Area annually burnt by natural fires (10^3 km^2 per grid cell) in 1998–2011 A.D. (left) and its change from this period to 2090–2100 A.D. in the simulation RCP 8.5 (right) for selected ensemble members with largest Bayesian weights (see Fig. S1). In addition, shown are ensemble member label k, Bayesian weight w_k, and respective global values.

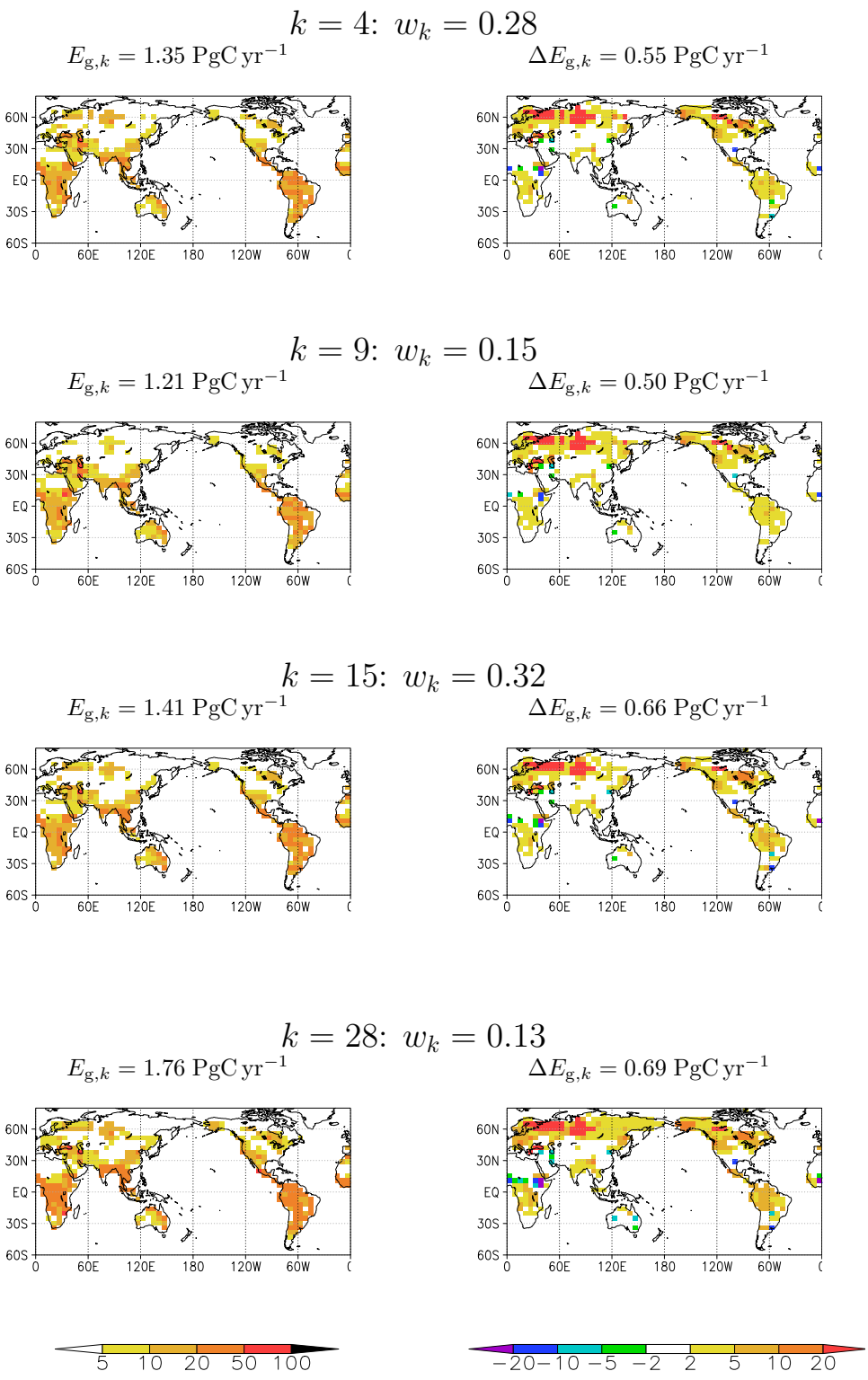


Figure S8: Similar to Fig. S7, but for annual CO_2 emissions in the atmosphere due to natural fires (gC m^{-2} yr^{-1}).

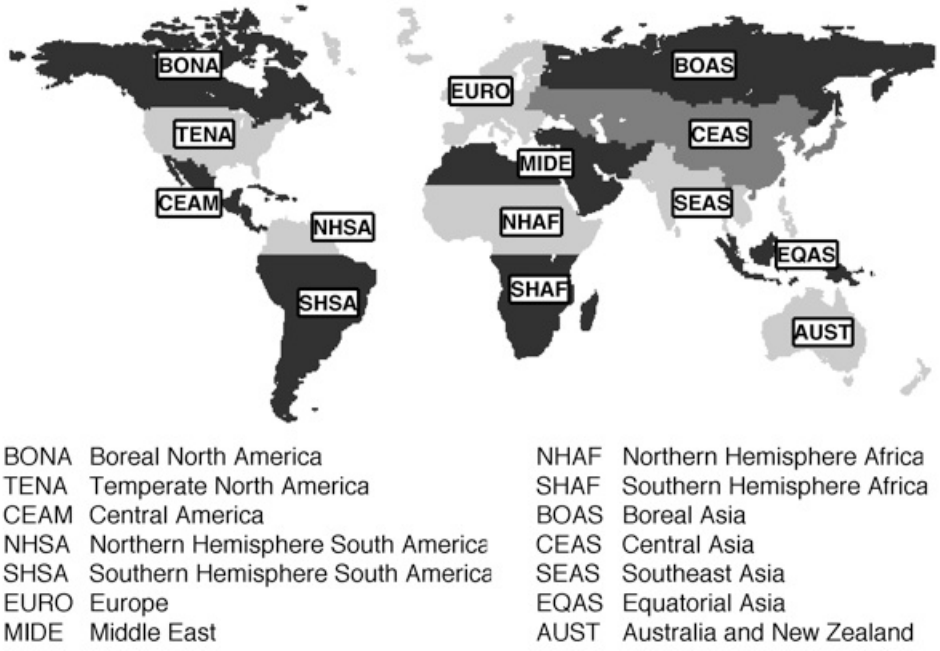


Figure S9: GFED regions. The map is downloaded from page http://www.globalfiredata.org/pics/Fig7_BasisregionsMap.jpg.