

Supporting Information for “Distilling the evolving contributions of anthropogenic aerosols and greenhouse gases to large-scale low-frequency surface ocean changes over the past century”

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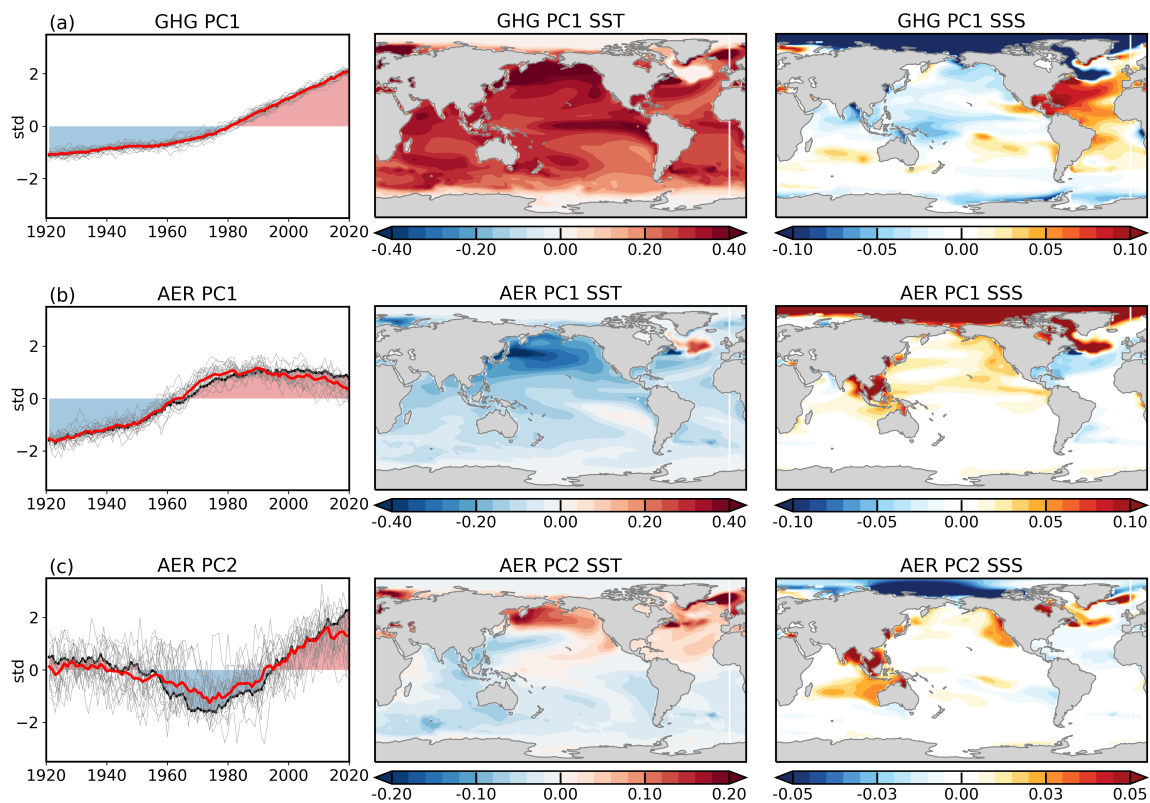


Figure S1. Results of LFCA applied to each of the individual ensemble members. (left) PC time series. Grey lines are individual members; black lines and color filling are the average of all members; red lines are the LFCA results applied to the ensemble-mean response as in Fig. 2. (middle) SST and (right) SSS patterns are averaged over all individual members' PC patterns.

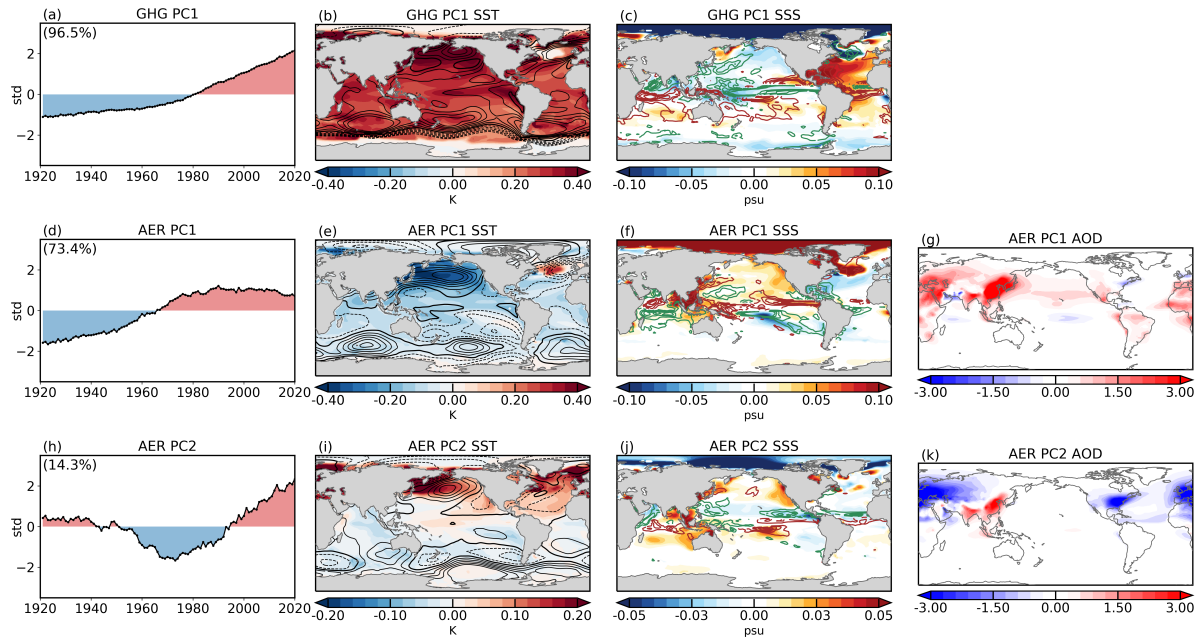


Figure S2. Same with Fig.2, except for JJA seasonal mean responses.

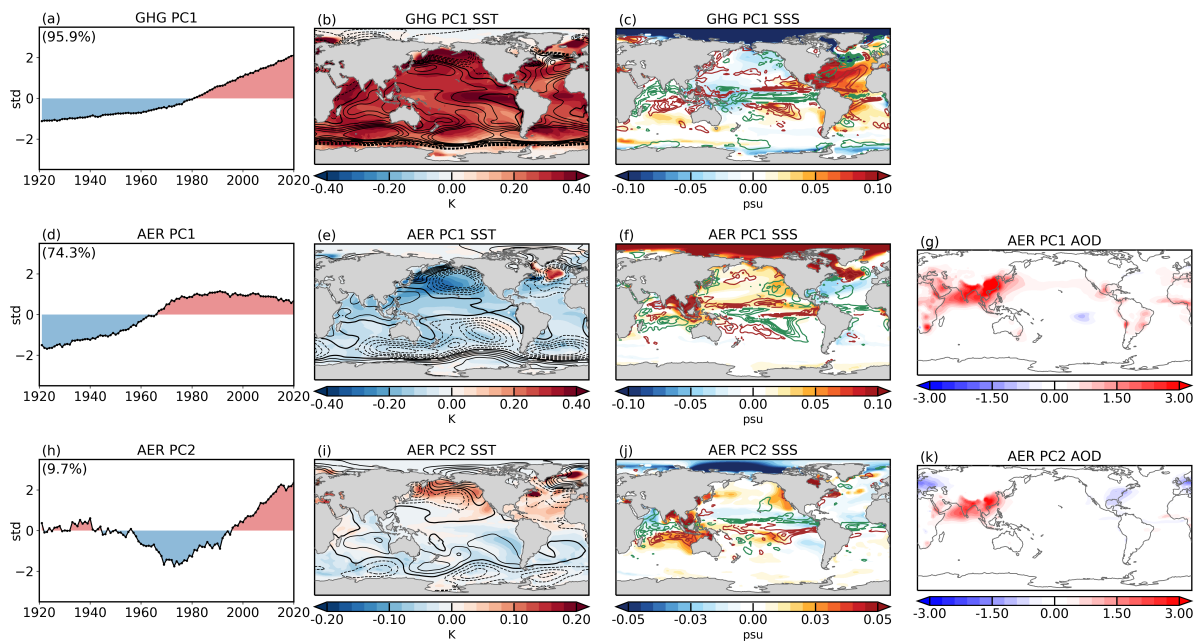


Figure S3. Same with Fig.2, except for DJF seasonal mean responses.

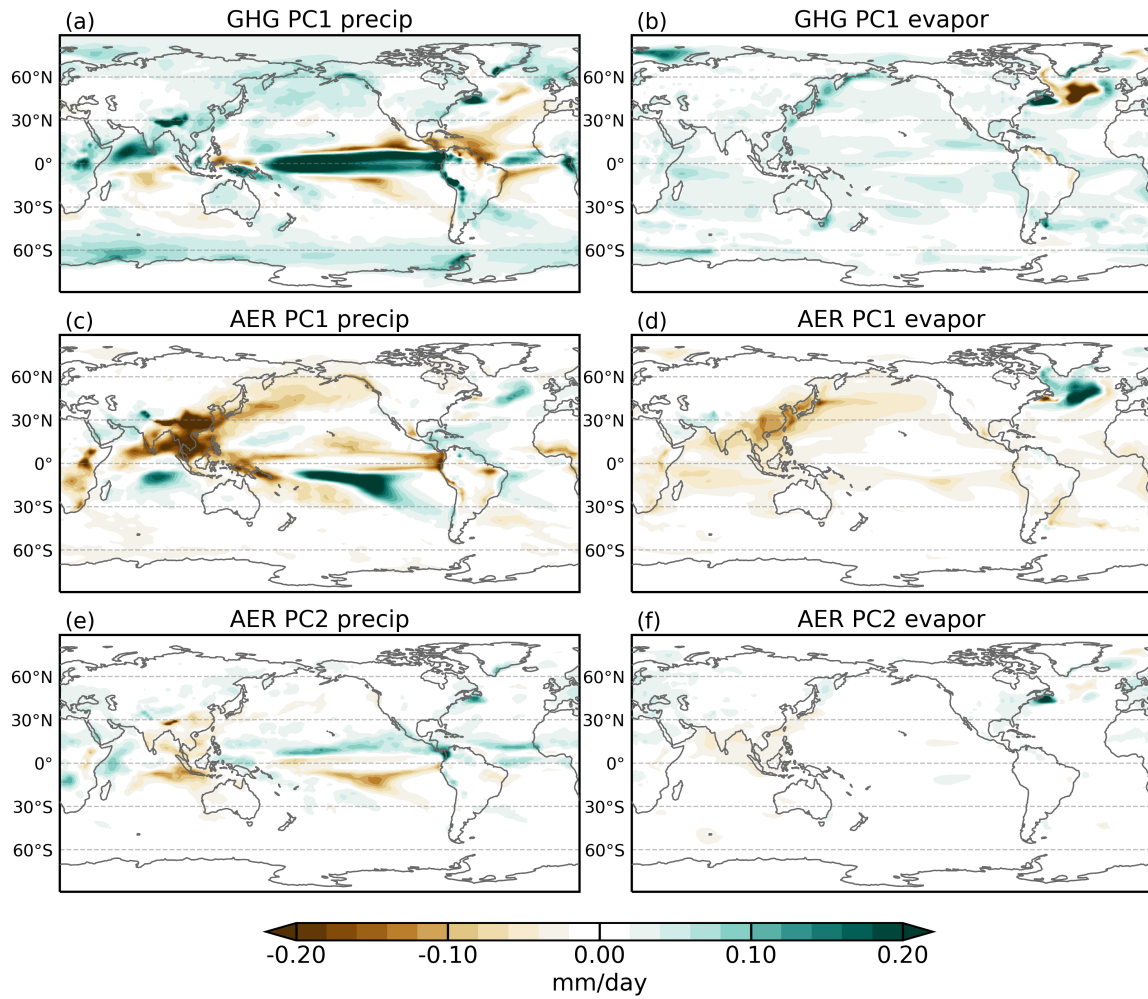


Figure S4. Precipitation (left) and evaporation (right) regressions onto GHG PC1 (top), AER PC1 (middle) and AER PC2 (bottom). Units: mm/day/std.

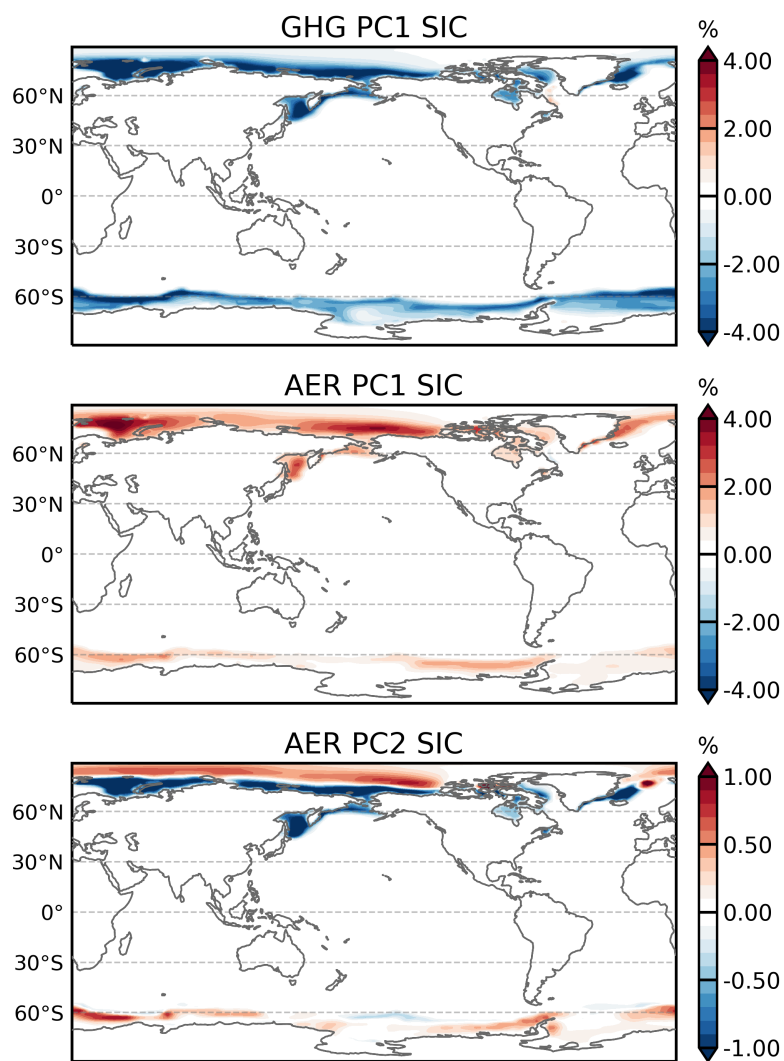


Figure S5. sea-ice fraction (SIC) regressions onto GHG PC1 (top), AER PC1 (middle) and AER PC2 (bottom).

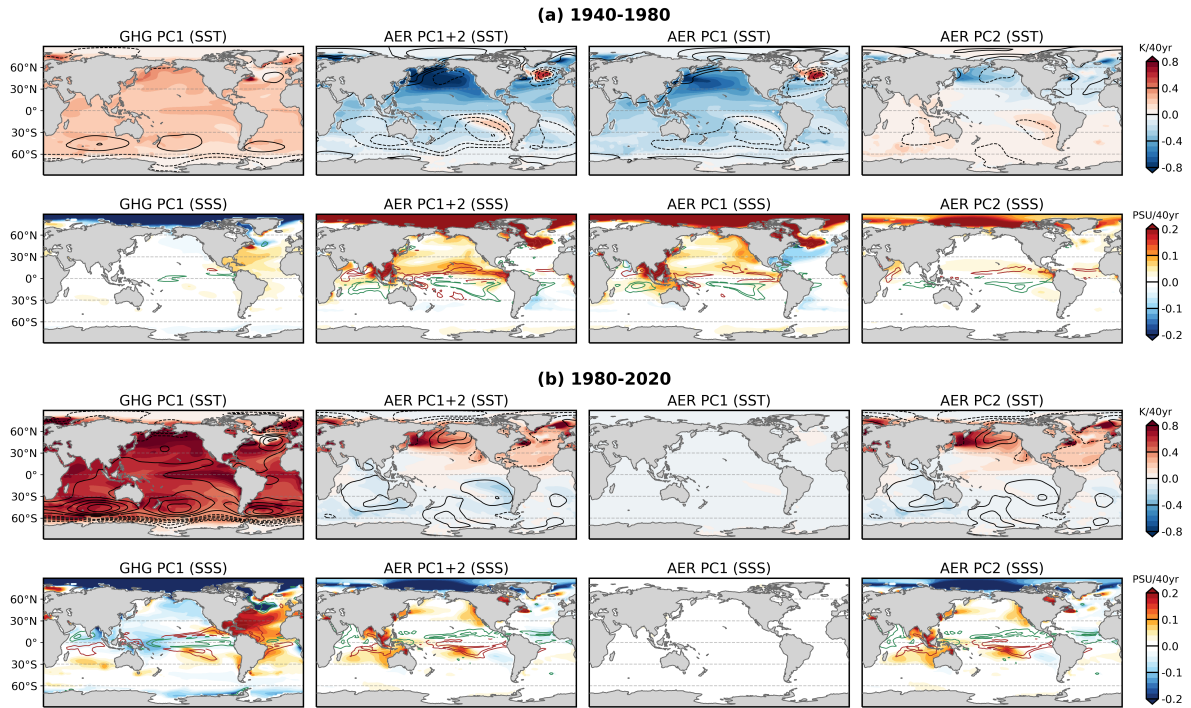


Figure S6. Similar to Fig. 1, except for the linear trend patterns associated with GHG and AER PCs for (a) 1940-1980 and (b) 1980-2020.

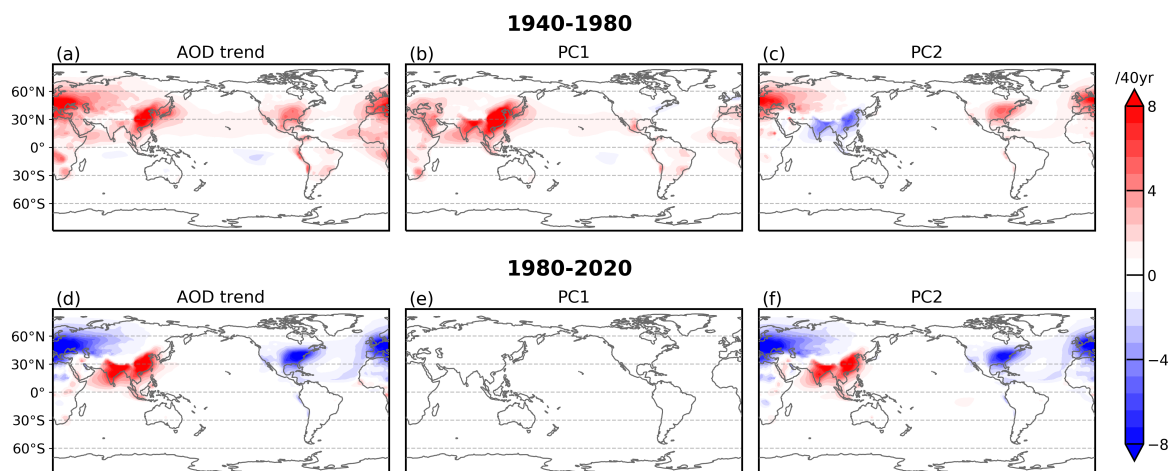


Figure S7. AOD trend maps during (top) 1940-1980 and (bottom) 1980-2020, from (a, d) AER simulation, (b, e) AER PC1 and (c, f) AER PC2.

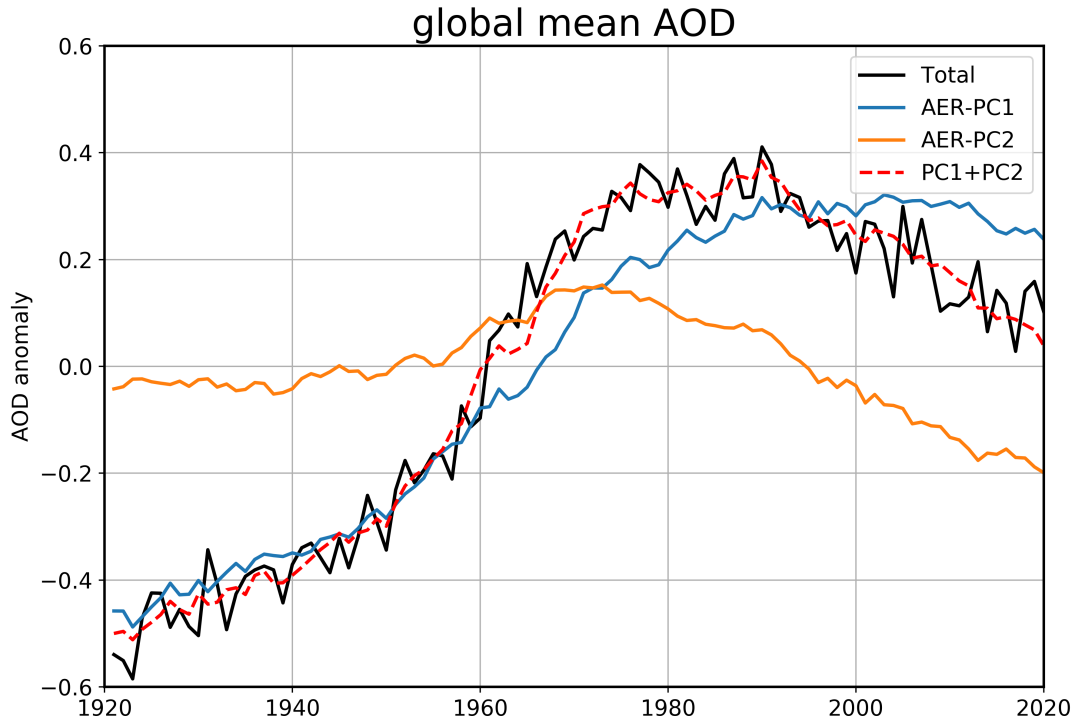


Figure S8. Global-mean AOD anomalies (relative to 1921-2020 climatology) from AER simulations (black) and PC reconstructions (blue and orange). Red dashed line denotes the sum of PC1 and PC2 associated AOD anomalies.

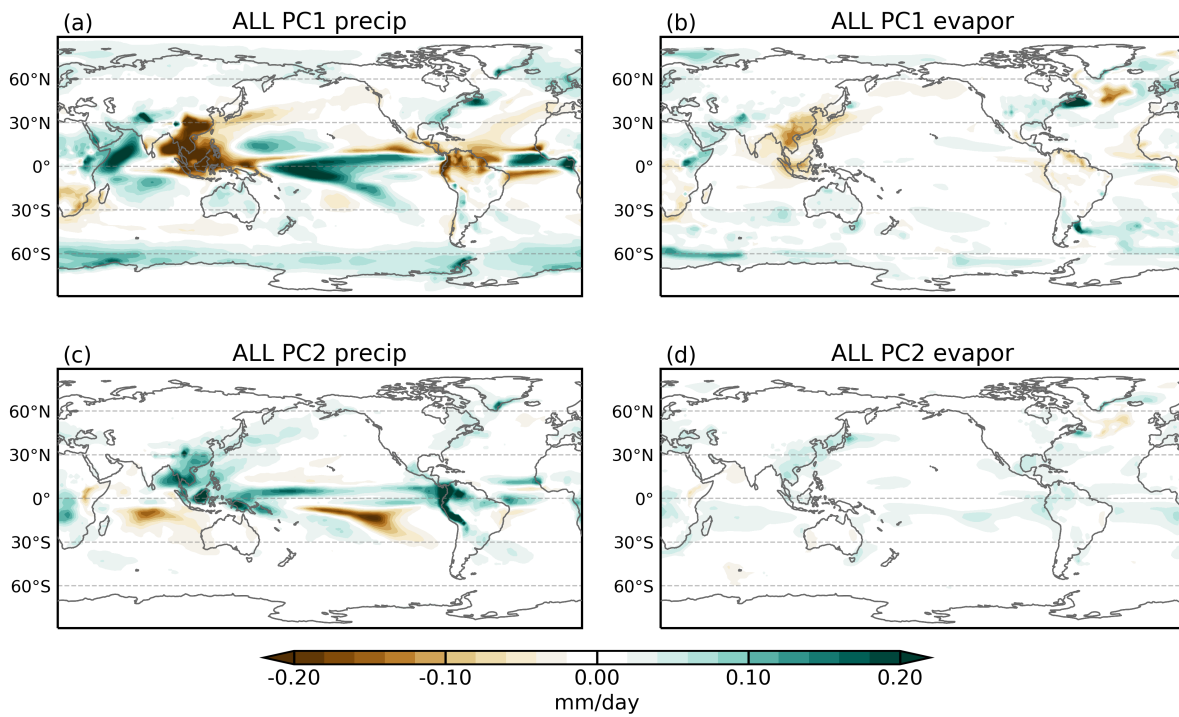


Figure S9. Regressions of (left) precipitation and (right) evaporation onto ALL PC1 and PC2.