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Supplement of

Investigating soil moisture–climate interactions with prescribed soil moisture experiments: an assessment with the Community Earth System Model (version 1.2)

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This document provides Supplementary Material for 'Investigating soil moisture-climate interactions with prescribed soil moisture experiments: an assessment with the Community Earth System Model (version 1.2)'. It includes Figure S1 to Figure S6.

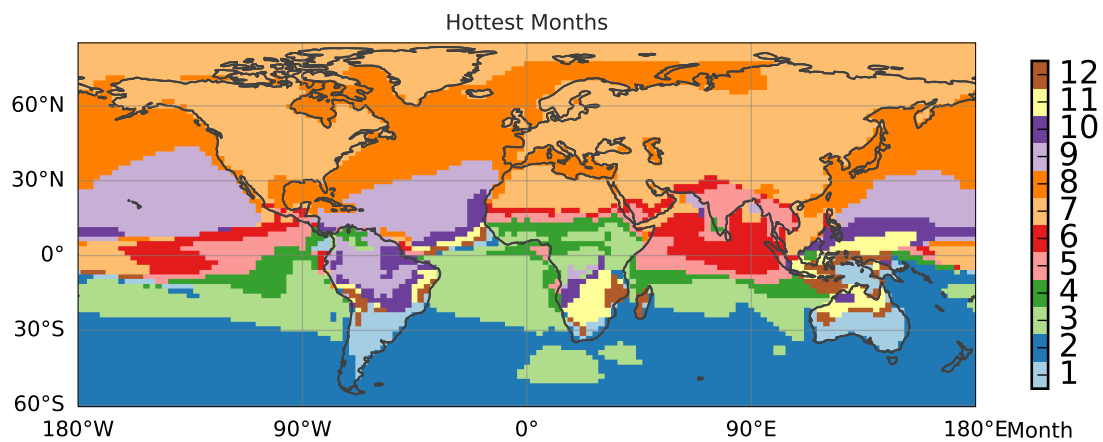


Figure S1. Central month of the three hottest consecutive months during 1971 to 2000 in REF, used for Figure 2a, d and e, Figure 3b and c, and Figure S2.

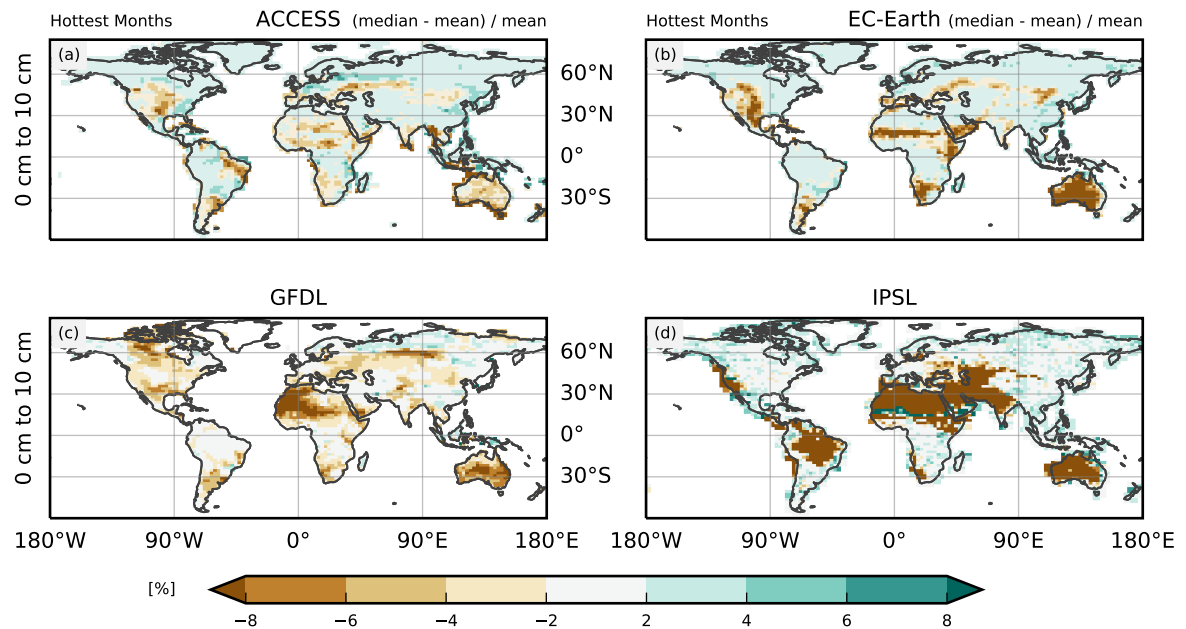


Figure S2. Relative difference in the soil moisture climatology between median and mean for the hottest months of the year for the topmost 10 cm of the soil (as Figure 2d) for four models participating in GLACE-CMIP5: **(a)** ACCESS, **(b)** EC-Earth **(c)** GFDL and **(d)** IPSL. The two missing models are ECHAM, which did not provide the necessary data and CESM itself. For IPSL, monthly data is used. For simplicity the same three consecutive hottest months from CESM are used (see Figure S1). For abbreviations and references of the models please see Seneviratne et al. (2013) and Lorenz et al. (2016).

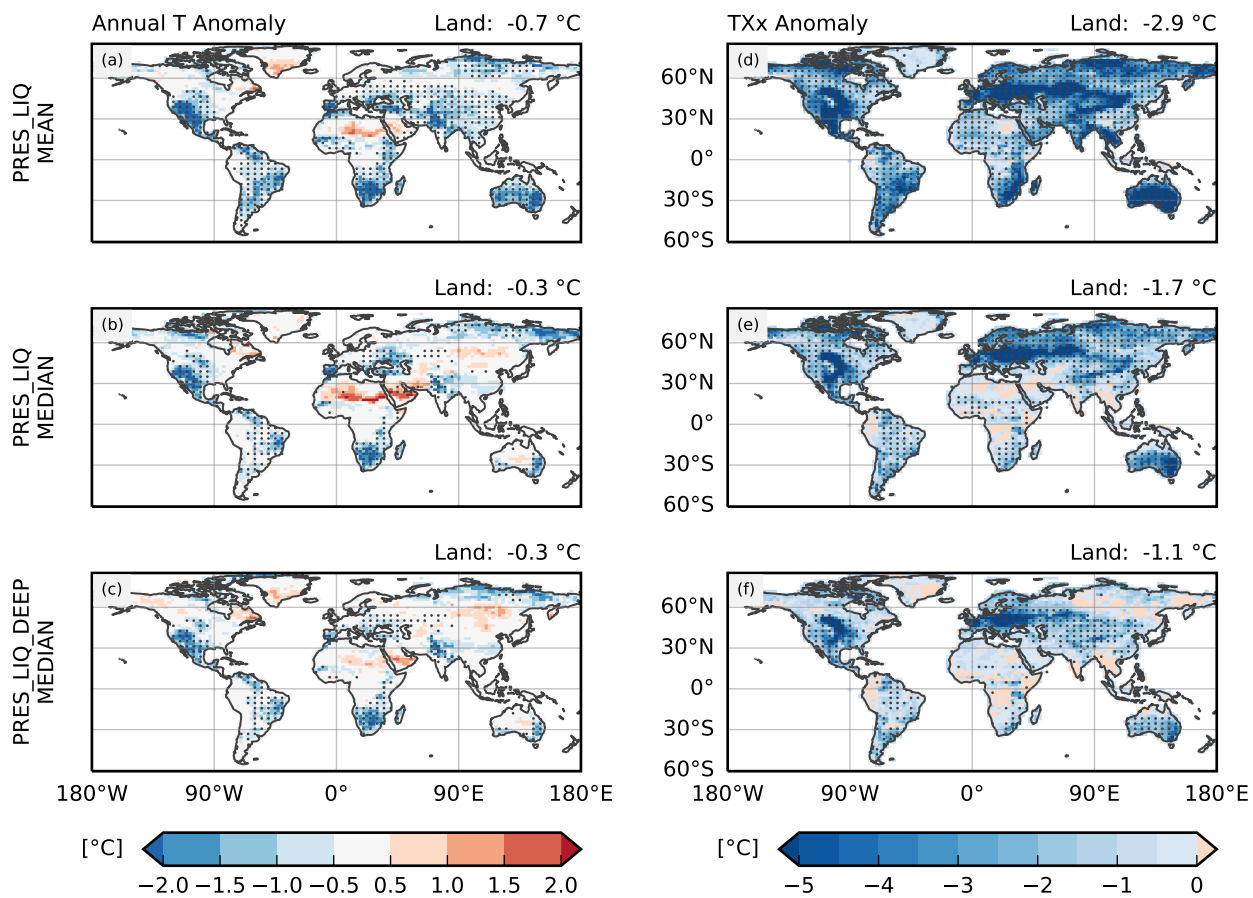


Figure S3. As Figure 4 but for 2070 to 2099.

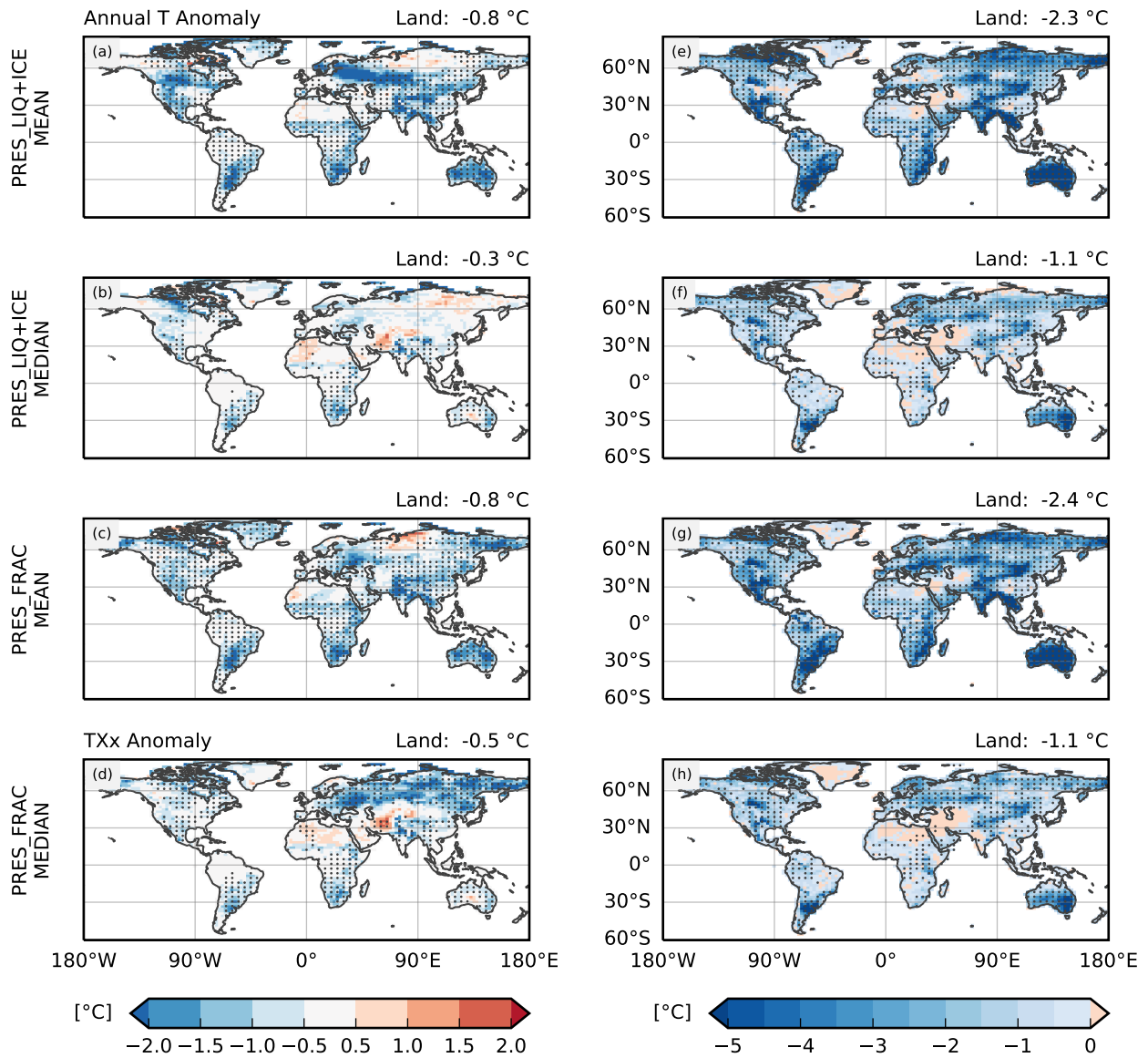


Figure S4. As Figure S3 but for the simulations which prescribe ICE, i.e. PRES_LIQ+ICE_MEAN, PRES_LIQ+ICE_MEDIAN, PRES_FRAC_MEAN, and PRES_FRAC_MEDIAN.

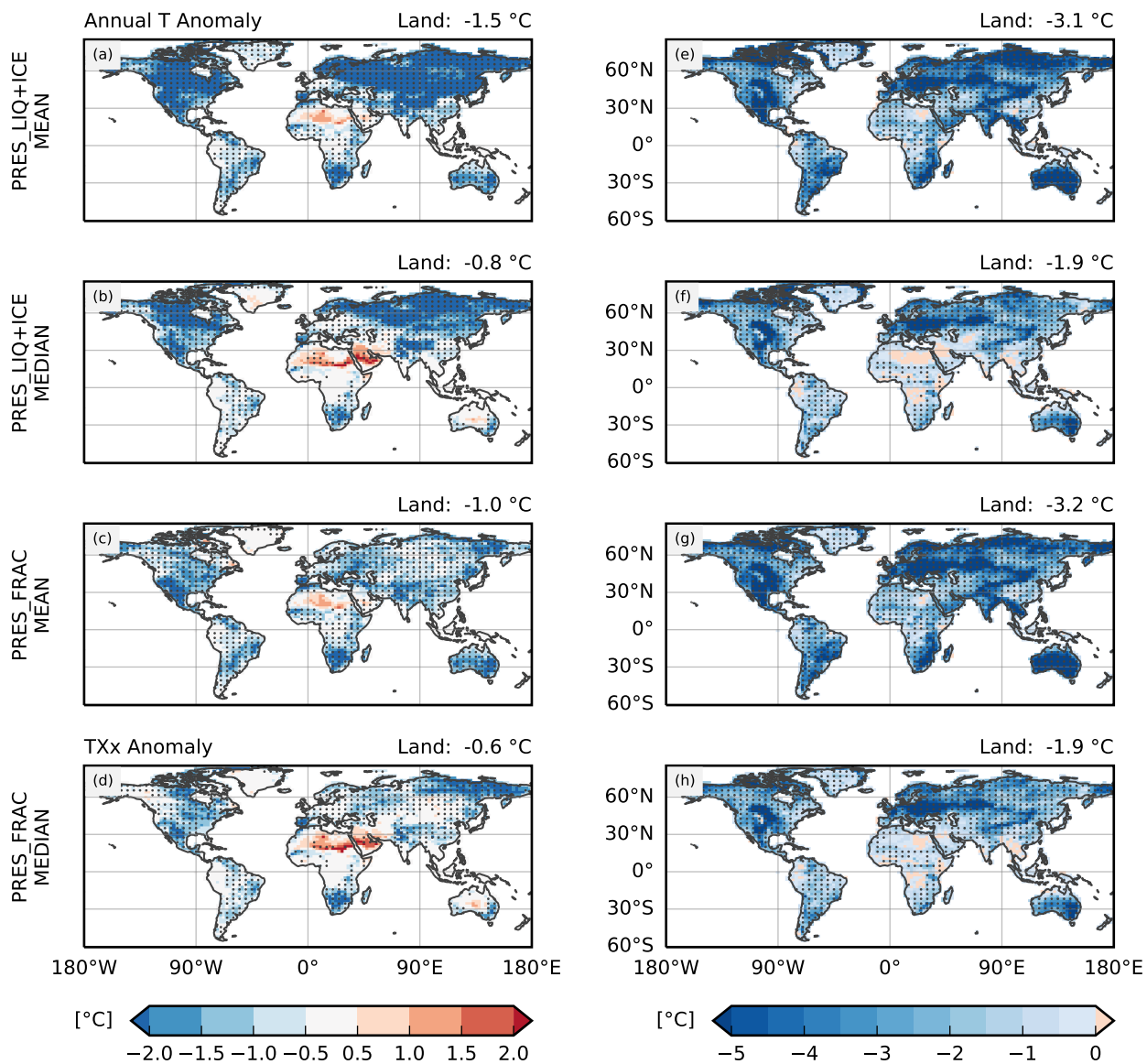


Figure S5. As Figure S4 but for 2070 to 2099.

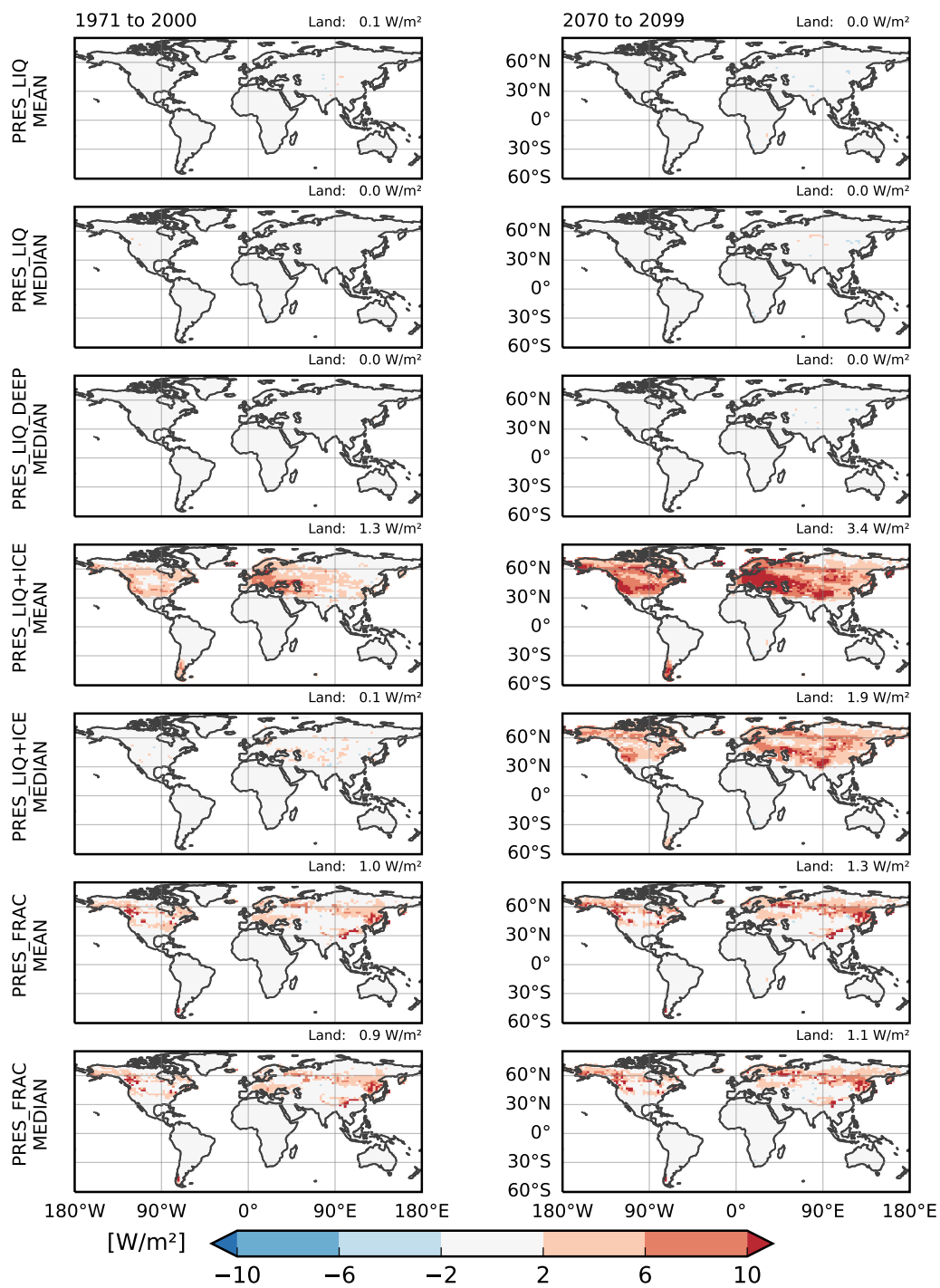


Figure S6. Ground heat flux anomalies with respect to REF for all seven simulations for 1971 to 2000 (left), and 2070 to 2099 (right).

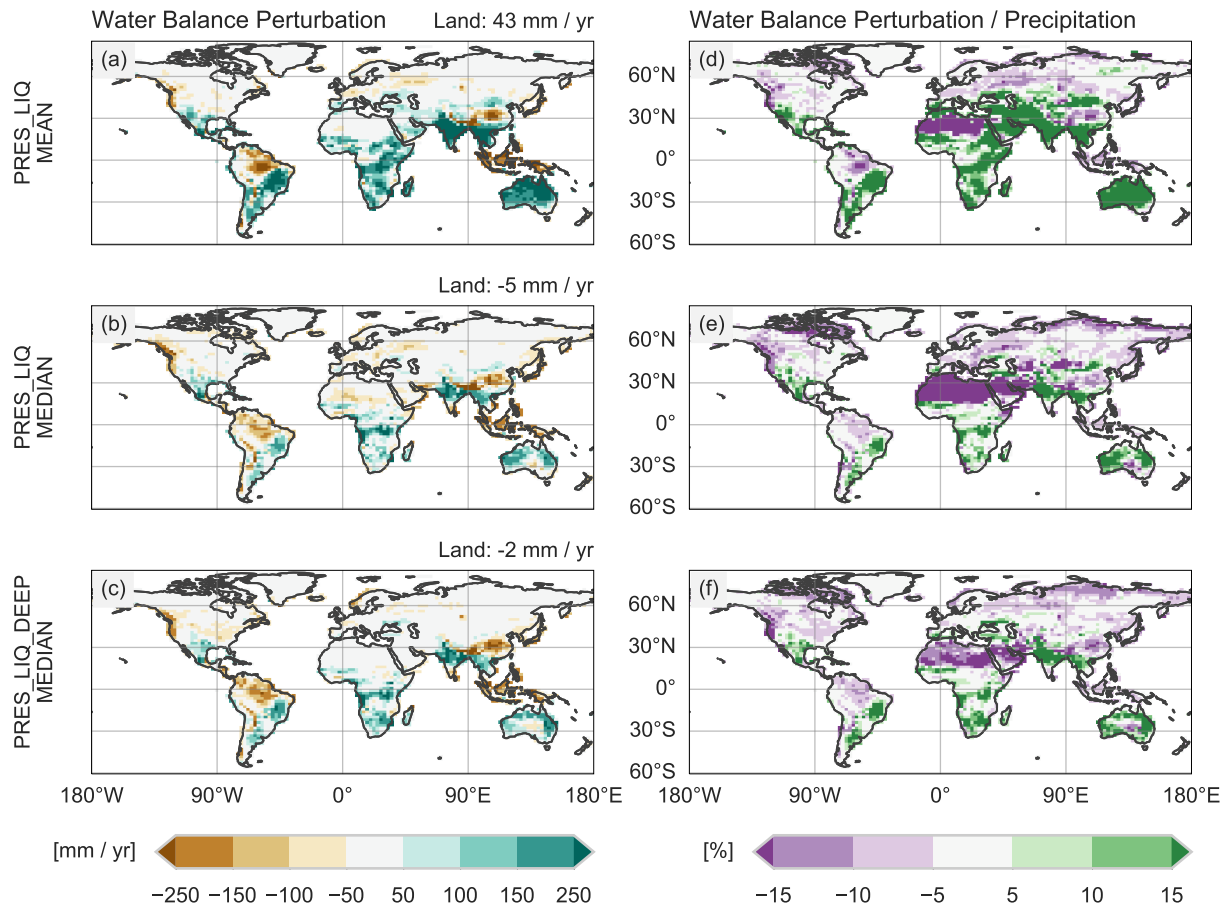


Figure S7. As Figure 5 but for 2070 to 2099.