## Supplementary information for manuscript: "Emulating Earth System Model temperatures: from global mean temperature trajectories to grid-point level realizations on land"



Figure S1. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for ACCESS1.0, AC-CESS1.3, BCC-CSM1.1(m), and BCC-CSM1.1.



Figure S2. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for BNU-ESM, CCSM4, CESM1(BGC), and CMCC-CESM.



Figure S3. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for CMCC-CM, CMCC-CMS, CNRM-CM5, and CSIRO-Mk3.6.0.



Figure S4. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for EC-EARTH, FGOALS-g2, FIO-ESM, and GFDL-CM3.



Figure S5. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for GFDL-ESM2G, GFDL-ESM2M, GISS-E2-H-CC, and GISS-E2-H.



Emulator calibration parameters

**Figure S6.** Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for GISS-E2-R-CC, GISS-E2-R, HadGEM2-AO, HadGEM2-CC.



Emulator calibration parameters

Figure S7. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for INM-CM4, IPSL-CM5A-LR, IPSL-CM5A-MR, and IPSL-CM5B-LR.



Figure S8. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for MIROC5, MIROC-ESM-CHEM, MIROC-ESM, and MPI-ESM-MR.



Emulator calibration parameters

Figure S9. Emulator calibration parameters (rows) for four selected climate models (columns). Analogous to Fig. 3 for MRI-CGCM3, MRI-ESM1, NorESM1-ME, and NorESM1-M.