

**Supplementary Information for Corrigendum: Quantifying  
the role of internal variability in the temperature we  
expect to observe in the coming decades (2020 Environ.  
Res. Lett. 15 054014)**

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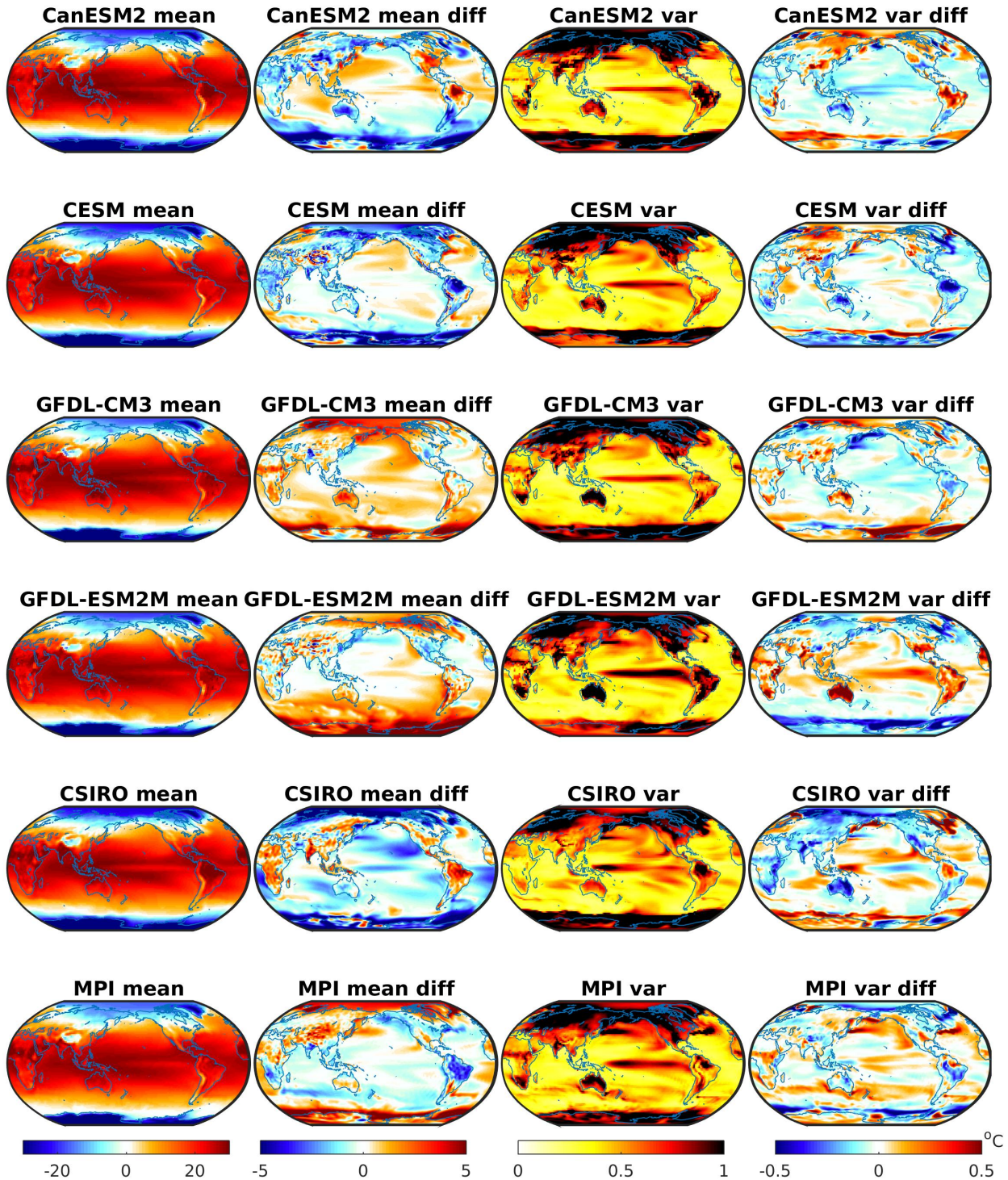
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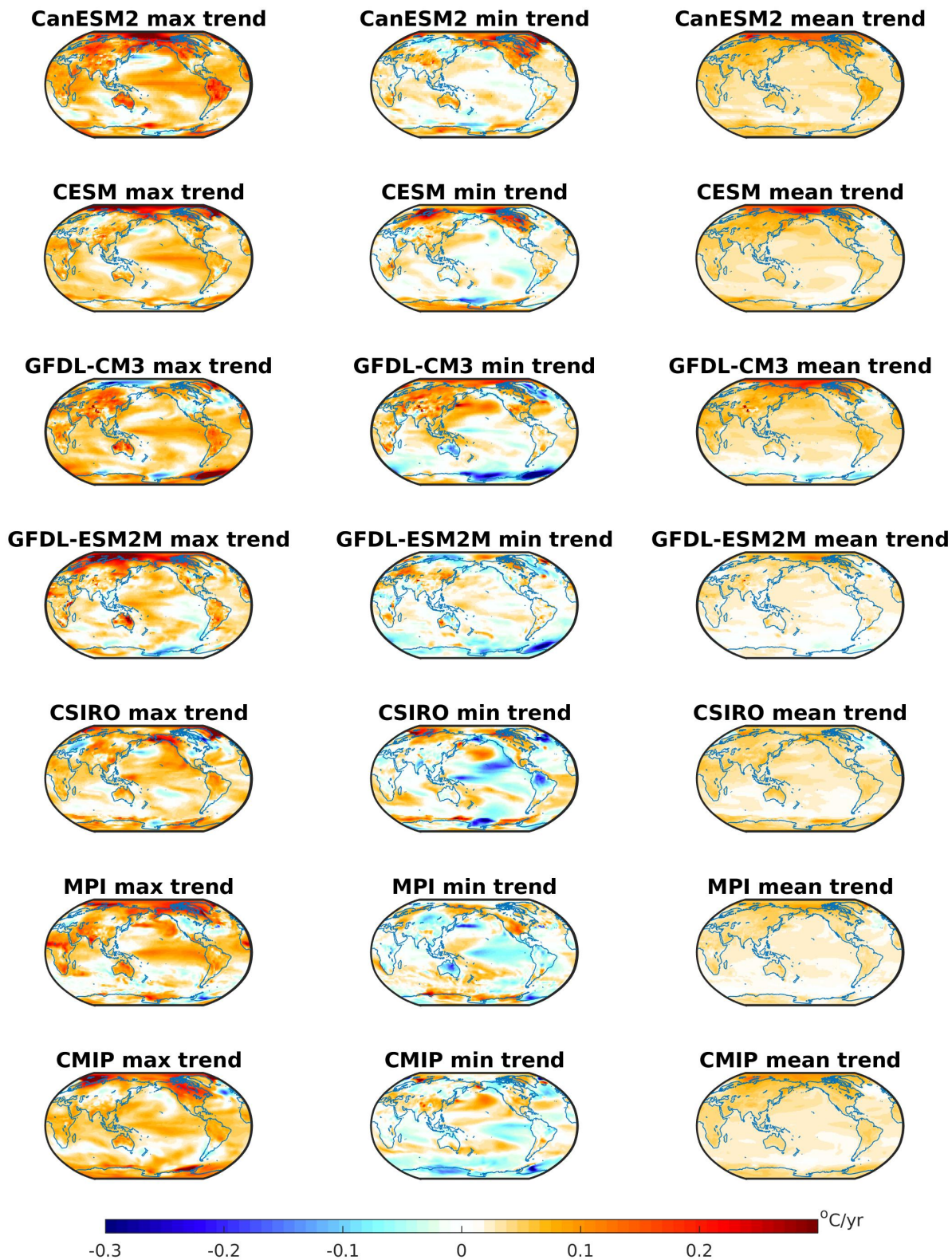
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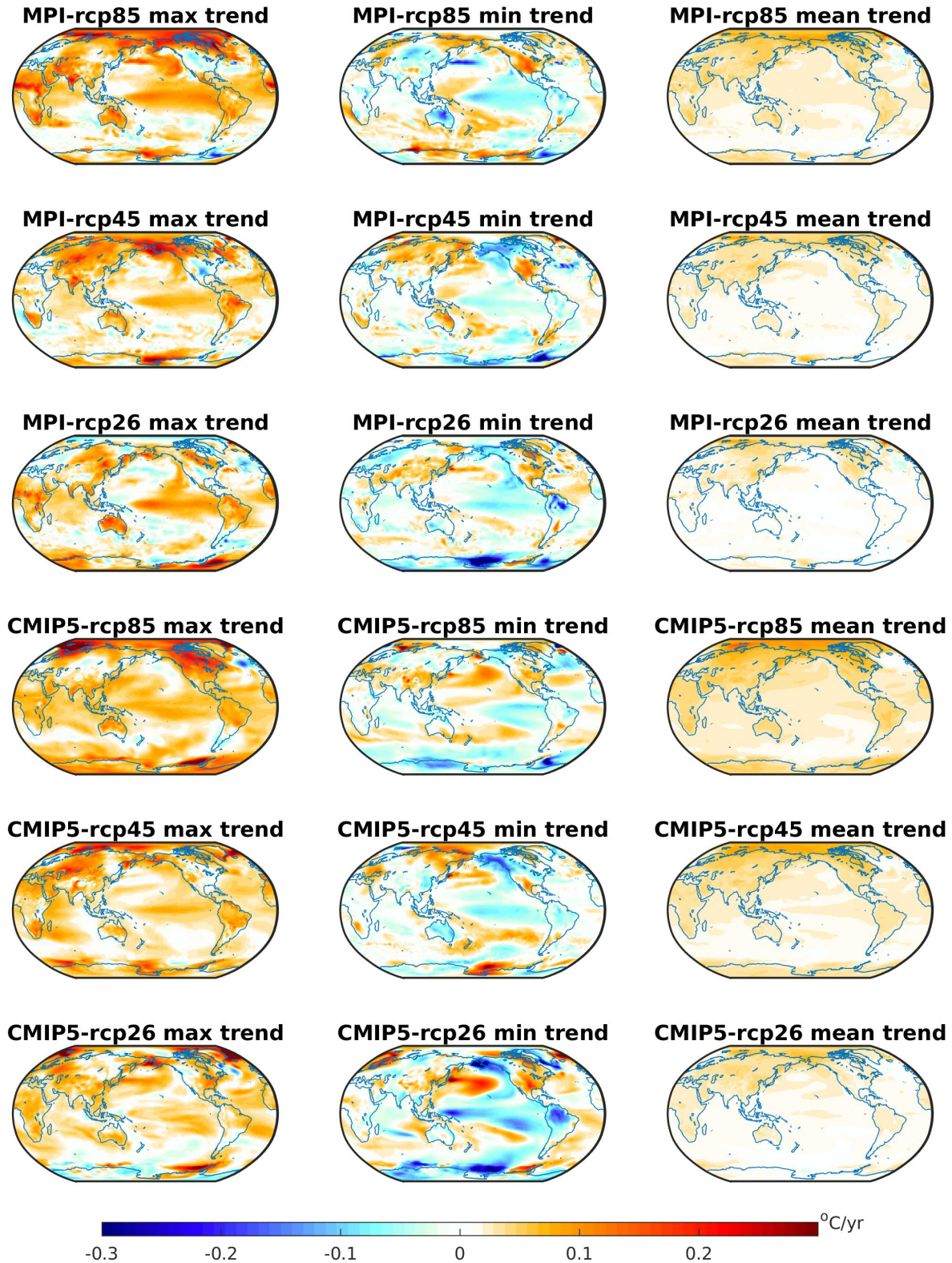
9 December 2019



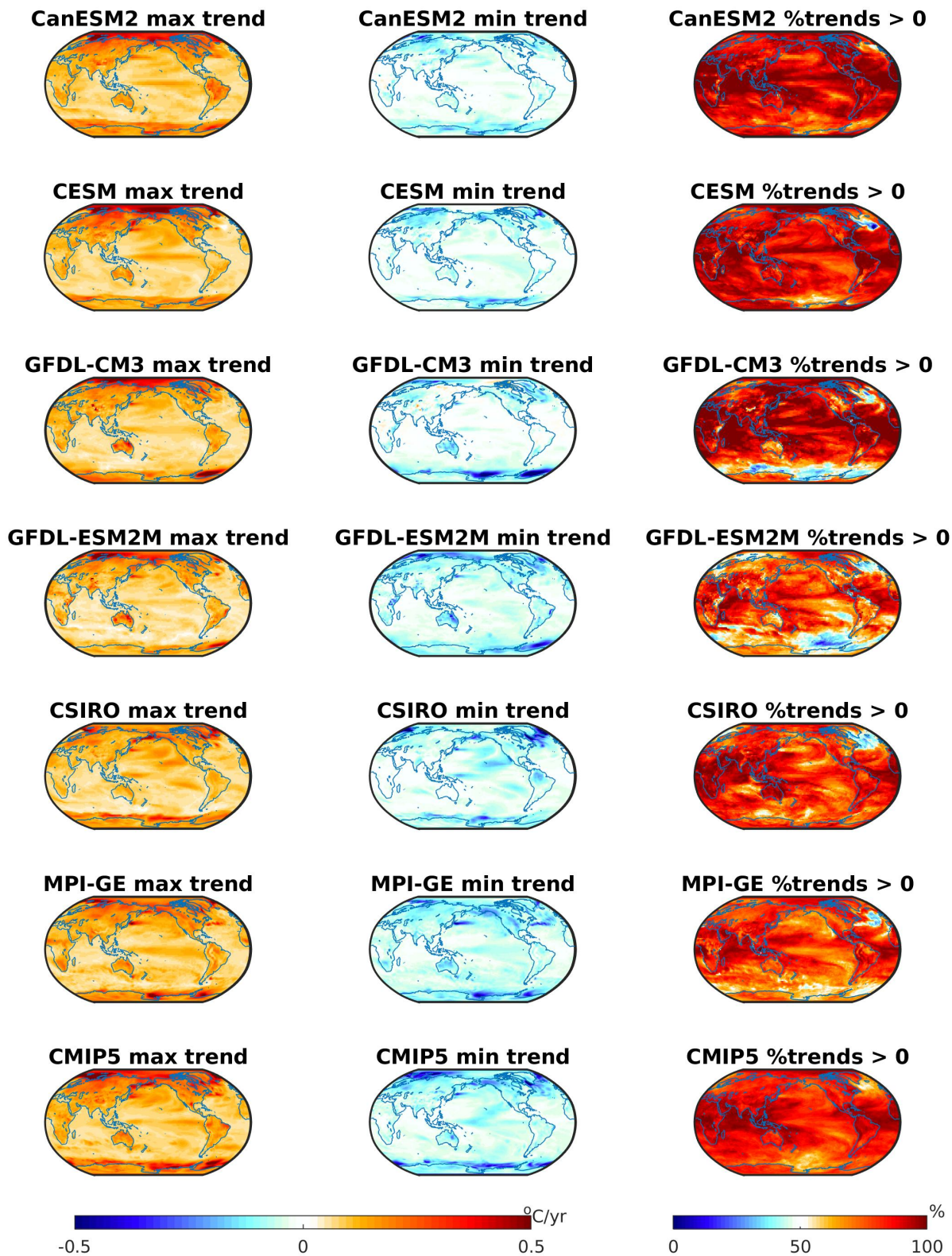
**Figure S1.** Mean temperature and internal variability in each SMILE. Left column: mean temperature. Second column: mean temperature minus the multi-ensemble mean. Third column: interannual temperature variability, taken as a standard deviation of annual mean temperature across the ensemble for each year and then averaged over the 10 year period. Right column: interannual temperature variability minus the multi-ensemble mean. All panels refer to the period 1952-1962. This period was chosen as all large ensemble projects have begun at this date, there is relatively low external greenhouse gas forcing and it is not directly after a volcanic eruption.



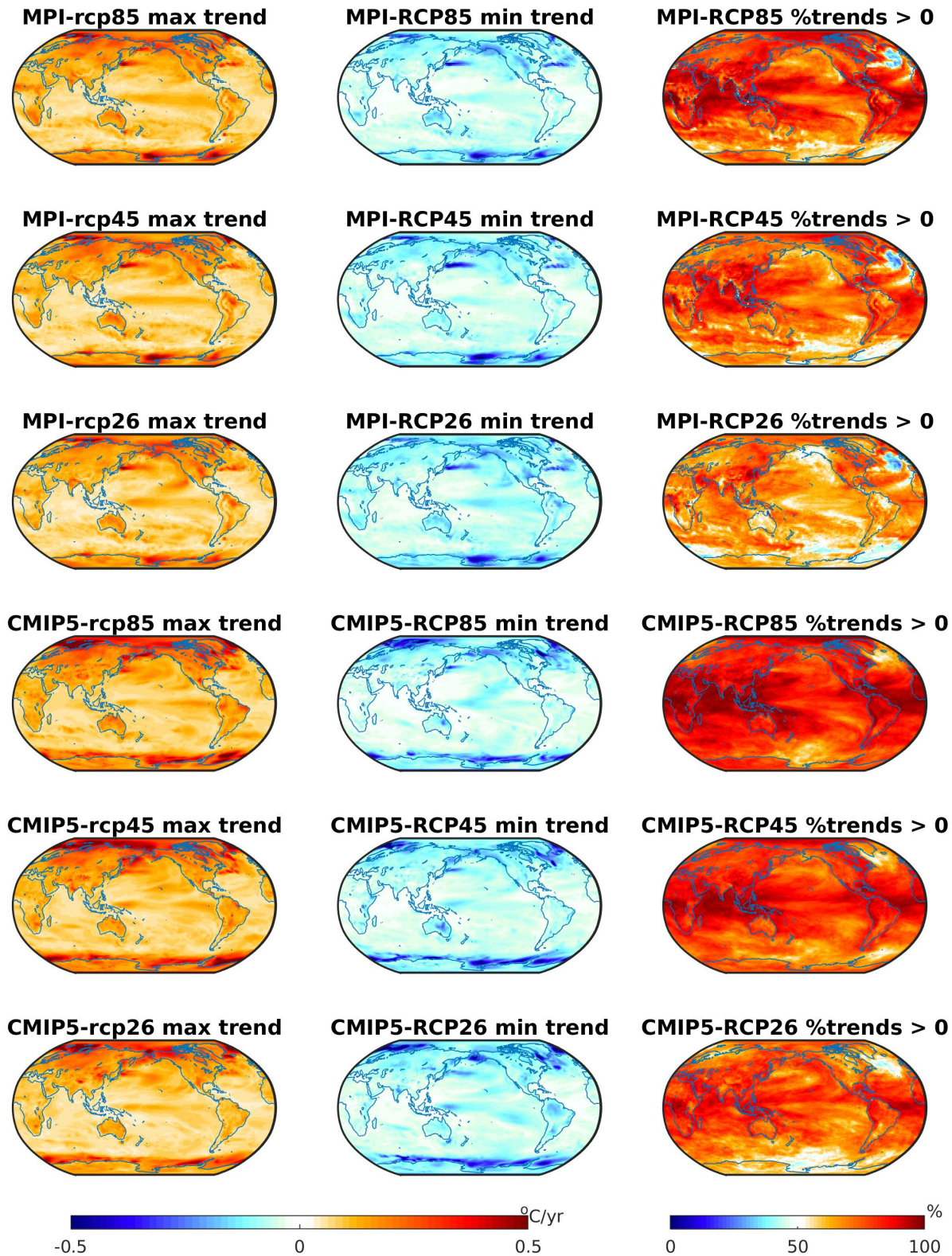
**Figure S2.** Short-term (2019-2034) surface temperature trends. Left column: map of trend in temperature when the global mean trend is maximum. Middle column: map of trend in temperature when the global mean trend is minimum. Right column: mean trend. This is shown for all SMILEs and CMIP5 for RCP8.5.



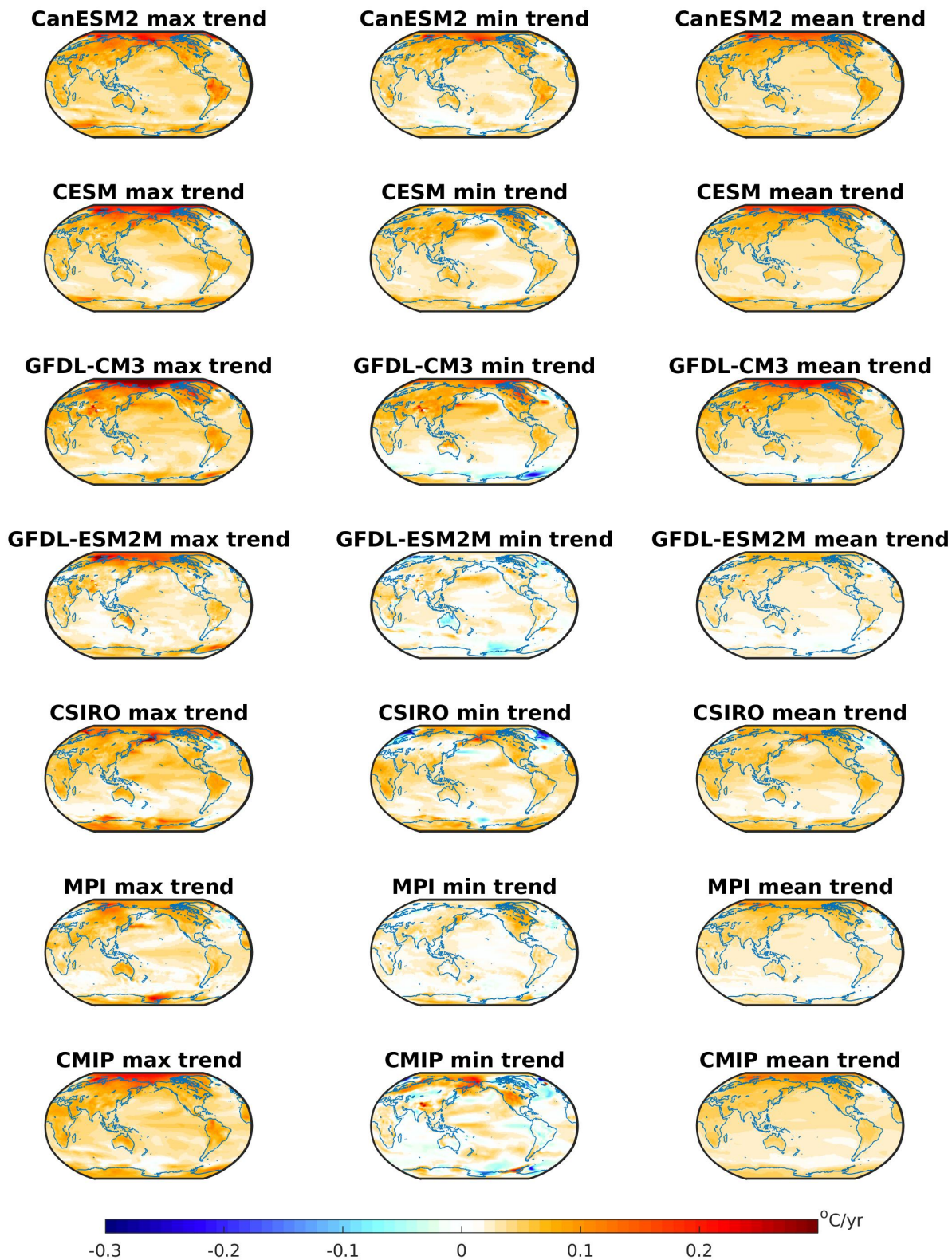
**Figure S3.** Scenario uncertainties in the short-term (2019-2034) surface temperature trends. Left column: map of trend in temperature when the global mean trend is maximum. Middle column: map of trend in temperature when the global mean trend is minimum. Right column: mean trend. This is shown for all three scenarios (RCP2.6, RCP4.5 and RCP8.5) from MPI-GE and CMIP5



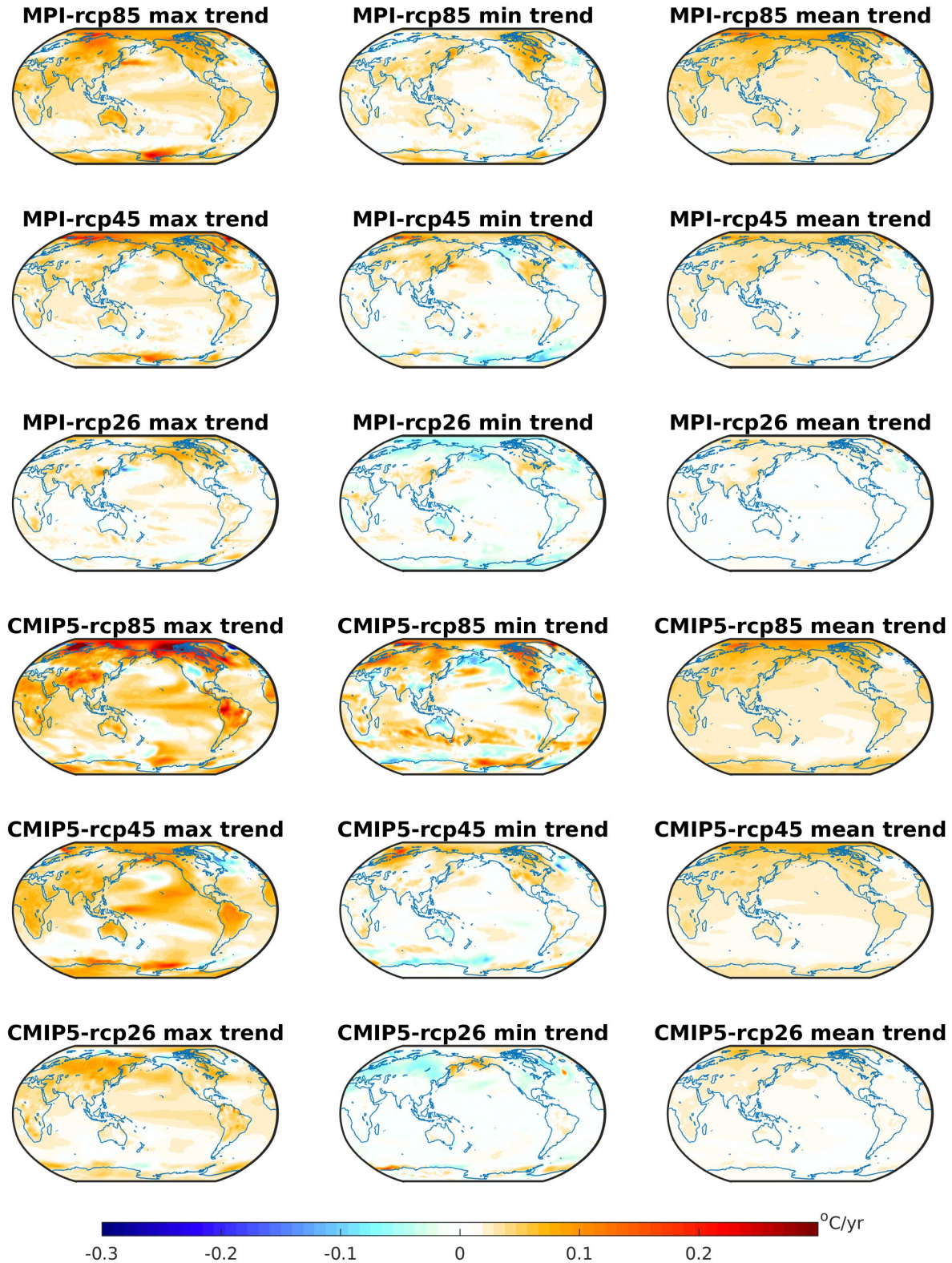
**Figure S4.** Point-wise short-term (2019-2034) trends in surface temperature. Left column: map of maximum trend found at each grid point. Middle column: map of minimum trend found at each grid point. Right column: % of ensemble members that show a trend above zero at each grid point. This is shown for all SMILEs and CMIP5 for RCP8.5.



**Figure S5.** Scenario differences in the point-wise short-term (2019-2034) trends in surface temperature. Left column: map of maximum trend found at each grid point. Middle column: map of minimum trend found at each grid point. Right column: % of ensemble members that show a trend above zero at each grid point. This is shown for three scenarios (RCP2.6, RCP4.5 and RCP8.5) from MPI-GE and CMIP5

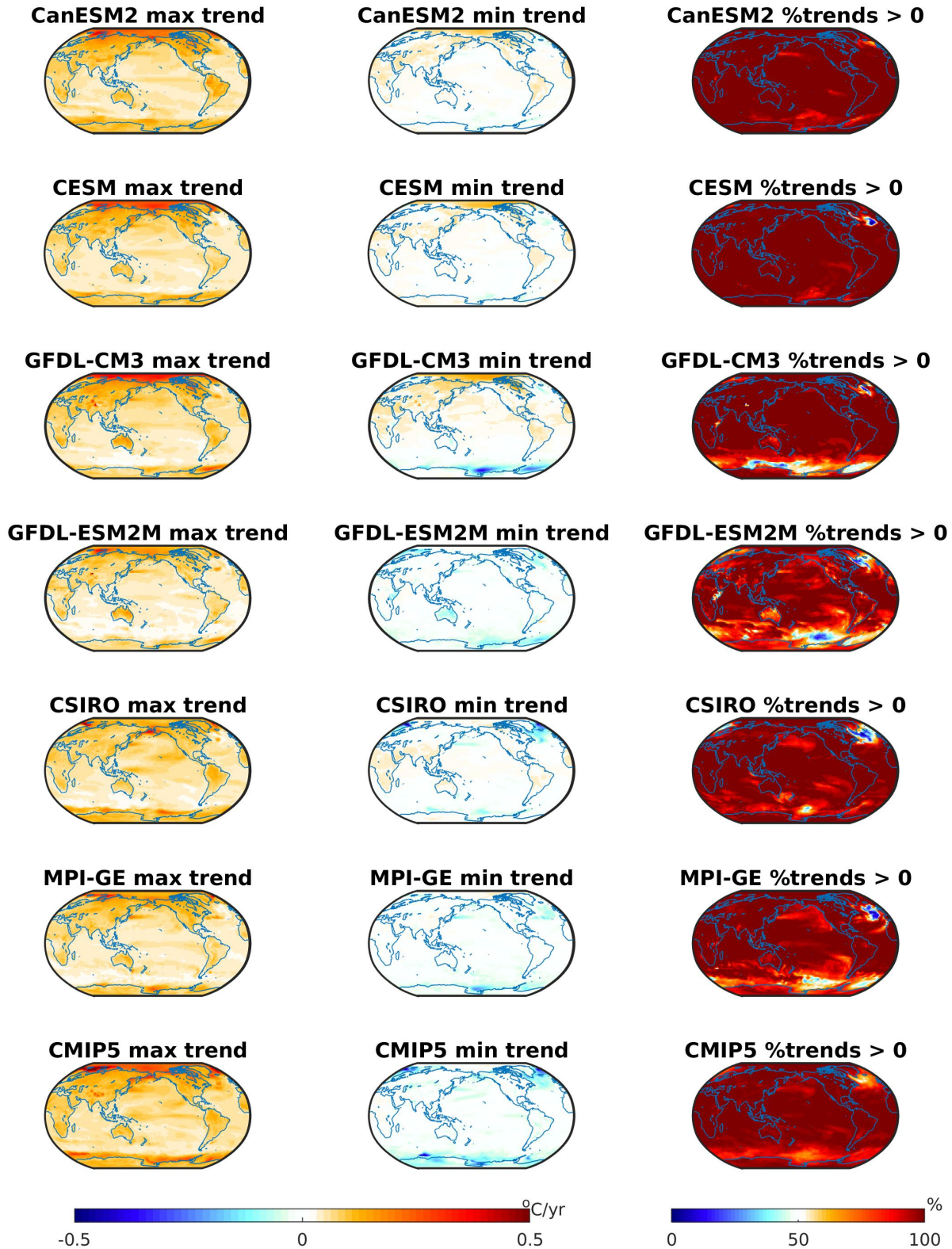


**Figure S6.** Mid-term (2019-2049) surface temperature trends. Left column: map of trend in temperature when the global mean trend is maximum. Middle column: map of trend in temperature when the global mean trend is minimum. Right column: mean trend. This is shown for all SMILEs and CMIP5 for RCP8.5.

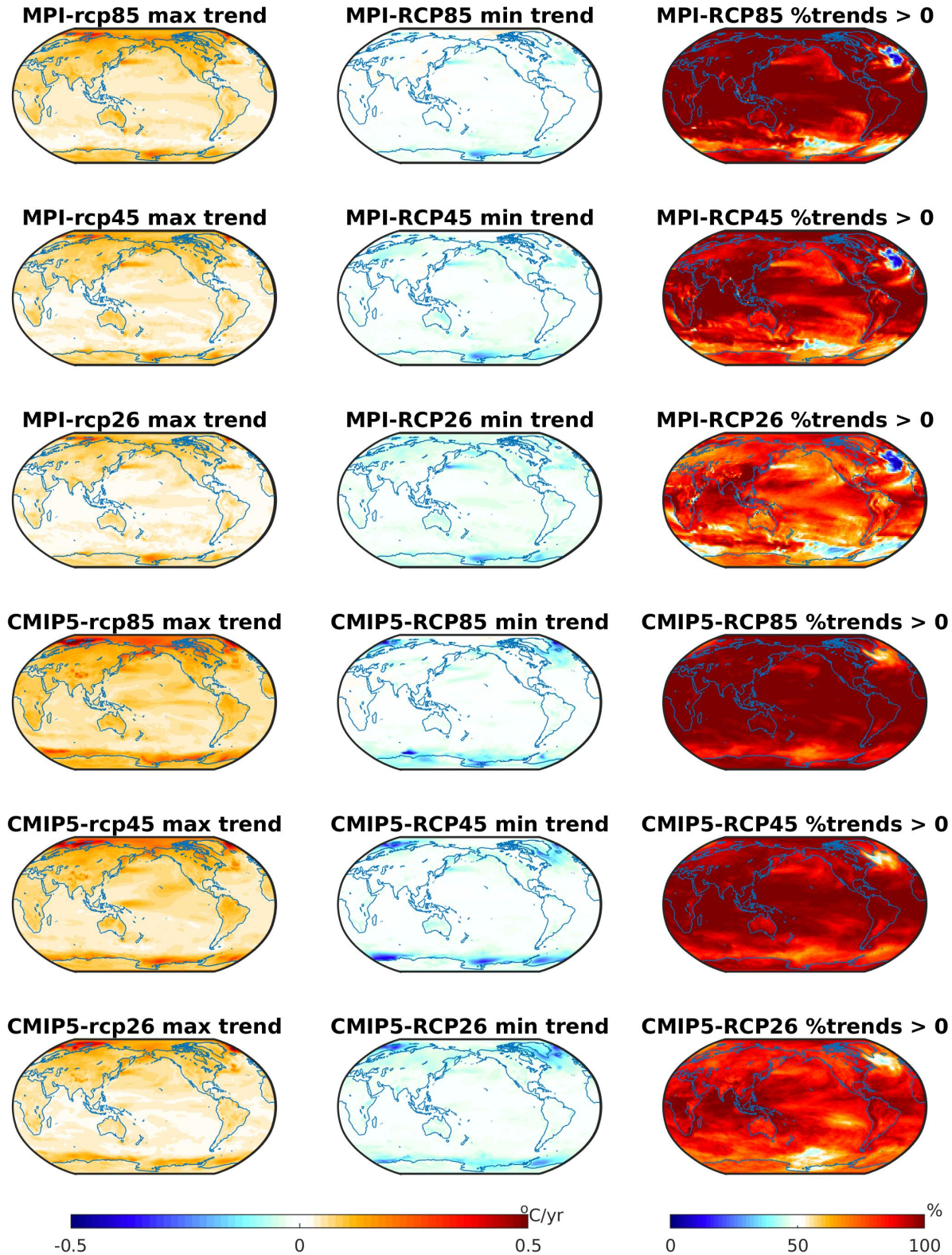


**Figure S7.** Scenario uncertainties in the mid-term (2019-2049) surface temperature trends. Left column: map of trend in temperature when the global mean trend is maximum. Middle column: map of trend in temperature when the global mean trend is minimum. Right column: mean trend. This is shown for all three scenarios (RCP2.6, RCP4.5 and RCP8.5) from MPI-GE and CMIP5





**Figure S8.** Point-wise mid-term (2019-2049) trends in surface temperature. Left column: map of maximum trend found at each grid point. Middle column: map of minimum trend found at each grid point. Right column: % of ensemble members that show a trend above zero at each grid point. This is shown for all SMILEs and CMIP5 for RCP8.5.



**Figure S9.** Scenario differences in the point-wise mid-term (2019-2049) trends in surface temperature. Left column: map of maximum trend found at each grid point. Middle column: map of minimum trend found at each grid point. Right column: % of ensemble members that show a trend above zero at each grid point. This is shown for three scenarios (RCP2.6, RCP4.5 and RCP8.5) from MPI-GE and CMIP5

**Table S1.** CMIP5 models used in this study and the ensemble members used for each model.

Modelling Centre	Models	RCP2.6 ensembles	RCP4.5 ensembles	RCP8.5 ensembles
CSIRO-BOM	ACCESS1-0	none	r1ilp1	r1ilp1
CSIRO-BOM	ACCESS1-3	none	r1ilp1	r1ilp1
BCC	bcc-csm1-1	rlilp1	rlilp1	rlilp1
BCC	bcc-csm1-1-m	rlilp1	rlilp1	none
BNU	BNU-ESM	rlilp1	rlilp1	rlilp1
CCCma	CanESM2	r(1-5)ilp1	r(1-5)ilp1	r(1-5)ilp1
NCAR	CCSM4	r(1-6)ilp1	r(1-6)ilp1	r(1-6)ilp1
NCAR	CESM1-BGC	none	rlilp1	rlilp1
NSF-DOE-NCAR	CESM1-CAM5-1-FV2	none	rlilp1	rlilp1
NSF-DOE-NCAR	CESM1-CAM5	r(1-3)ilp1	r(1-3)ilp1	r(1-3)ilp1
NSF-DOE-NCAR	CESM1-WACCM	r2ilp1	r(2-4)ilp1	r(2-4)ilp1
CMCC	CMCC-CESM	none	none	rlilp1
CMCC	CMCC-CM	none	rlilp1	rlilp1
CMCC	CMCC-CMS	none	rlilp1	rlilp1
CNRM-CERFACS	CNRM-CM5	rlilp1	rlilp1	r(1,2,4,6,10)ilp1
CSIRO-QCCCE	CSIRO-Mk3-6-0	r(1-10)ilp1	r(1-10)ilp1	r(1-10)ilp1
ICHEC	EC-EARTH	r8ilp1	r(7-8)ilp1	r(7-8)ilp1
IAP	FGOALS-g2	rlilp1	rlilp1	rlilp1
FIO	FIO-ESM	r(1-3)ilp1	r(1-3)ilp1	r(1-3)ilp1
GFDL	GFDL-CM3	rlilp1	r(1,3,5)ilp1	rlilp1
GFDL	GFDL-ESM2G	rlilp1	rlilp1	rlilp1
GFDL	GFDL-ESM2M	rlilp1	rlilp1	rlilp1
GISS	GISS-E2-H-CC	none	rlilp1	rlilp1
GISS	GISS-E2-H	rlilp(1-3)	r(1-5)ilp(1-3), r6ilp3	rlilp(1-3), r2ilp(1,3)
GISS	GISS-E2-R-CC	none	rlilp1	rlilp1
GISS	GISS-E2-R	rlilp(1-3)	r(1-5)ilp(1-3), r6ilp(1,3)	rlilp(1-3), r2ilp(1,3)
MOCH	HadGEM2-ES	r(1-4)ilp1	r(1-4)ilp1	r(1-4)ilp1
MOCH	HadGEM2-CC	none	rlilp1	r(1-3)ilp1
NIMR	HadGEM2-AO	rlilp1	rlilp1	rlilp1
INM	inmcm4	none	rlilp1	rlilp1
IPSL	IPSL-CM5A-LR	r(1-4)ilp1	r(1-4)ilp1	r(1-4)ilp1
IPSL	IPSL-CM5A-MR	rlilp1	rlilp1	rlilp1
IPSL	IPSL-CM5B-LR	none	rlilp1	rlilp1
MIROC	MIROC5	r(1-3)ilp1	r(1-3)ilp1	r(1-5)ilp1
MIROC	MIROC-ESM-CHEM	rlilp1	r(1-9)ilp1	rlilp1
MIRCO	MIROC-ESM	rlilp1	rlilp1	rlilp1
MPI	MPI-ESM-LR	r(1-3)ilp1	r(1-3)ilp1	r(1-3)ilp1
MPI	MPI-ESM-MR	rlilp1	r(1-3)ilp1	rlilp1
MRI	MRI-CGCM3	rlilp1	rlilp1	rlilp1
MRI	MRI-ESM1	none	none	rlilp1
NCC	NorESM1-M	rlilp1	rlilp1	rlilp1
NCC	NorESM1-ME	rlilp1	rlilp1	rlilp1