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Supplement of

Distorted Pacific–North American teleconnection at the Last Glacial Maximum

Yongyun Hu et al.

Correspondence to: Yongyun Hu (yyhu@pku.edu.cn)

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Supplementary materials

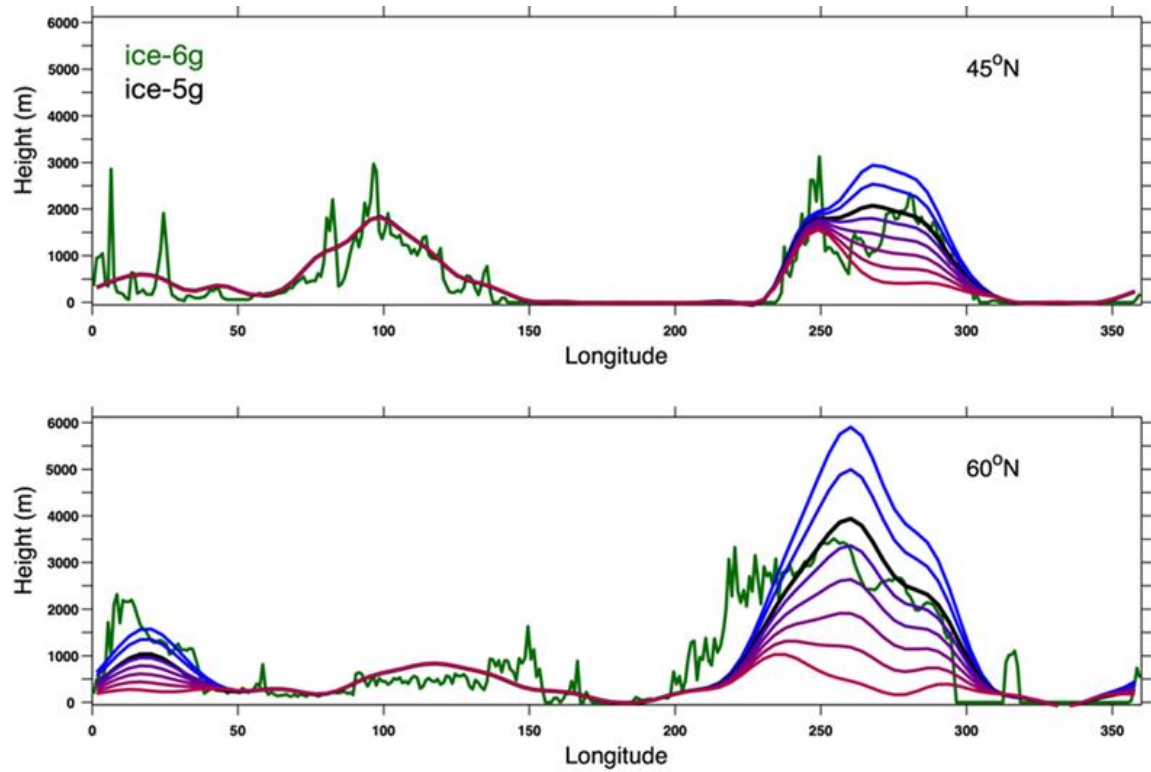


Figure S1. Vertical cross-sections of the Northern-Hemisphere ice sheet thicknesses for ICE-5G and ICE-6G at 45 °N and 60 °N. Different ice sheet thicknesses (from 20% to 150%) in our sensitivity experiments for ICE-5G are plotted here.

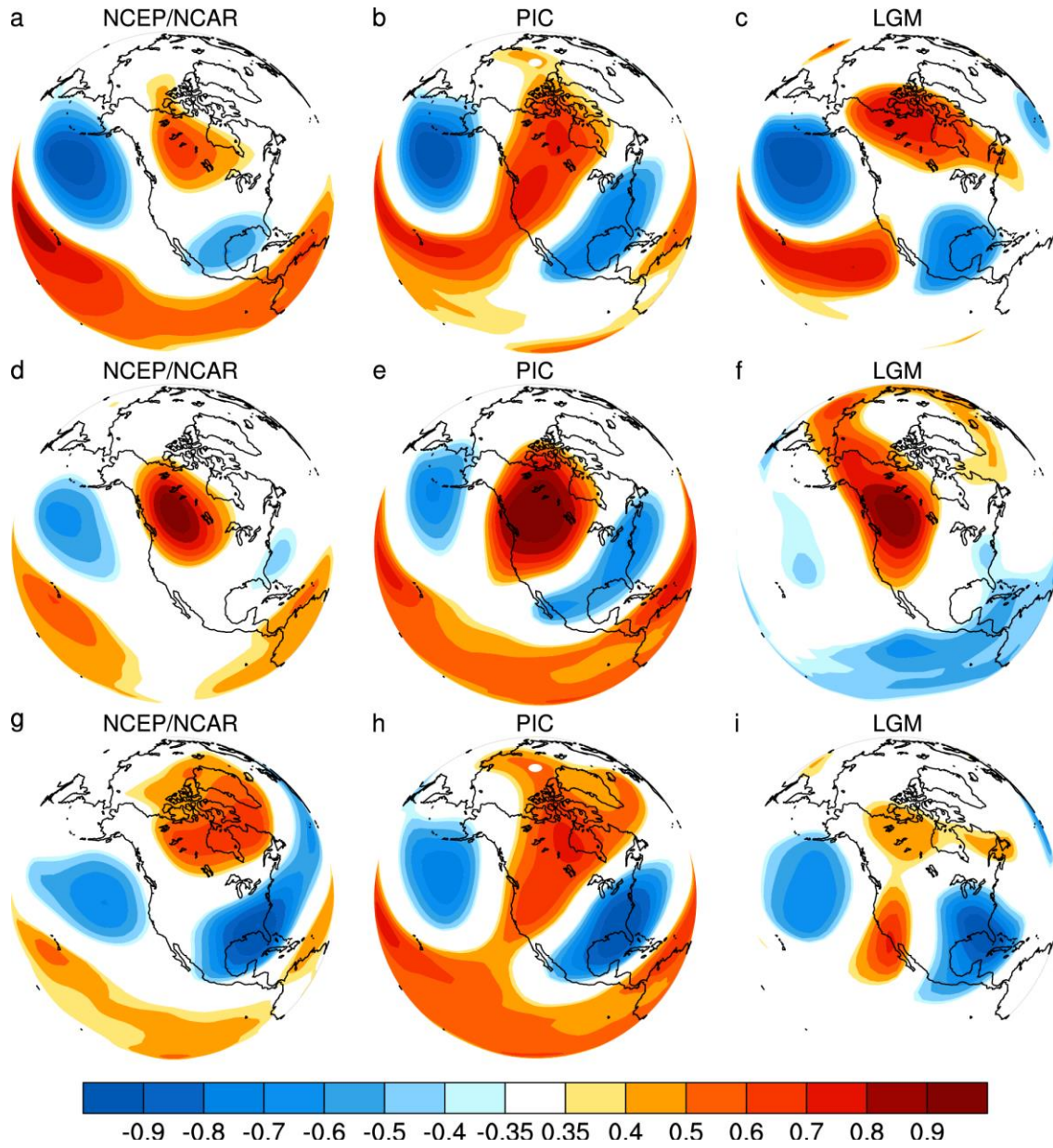


Figure S2. One-point correlation maps of 500 hPa geopotential heights in DJF for different base points in NCEP/NCAR reanalysis and PMIP2 CCSM3 simulations. Left panels: NCEP/NCAR, middle panels: PIC, and right panels: LGM. From top to bottom, the base point is at: North Pacific (45 °N and 165 °W), Alberta of Canada (55 °N and 115 °W), and Gulf Mexico (30 °N and 85 °W), respectively. The correlation coefficient of 0.35 corresponds to the 95% confidence level for 30-year correlations. For the all three base points, the correlation coefficients near Hawaii are set to positive.

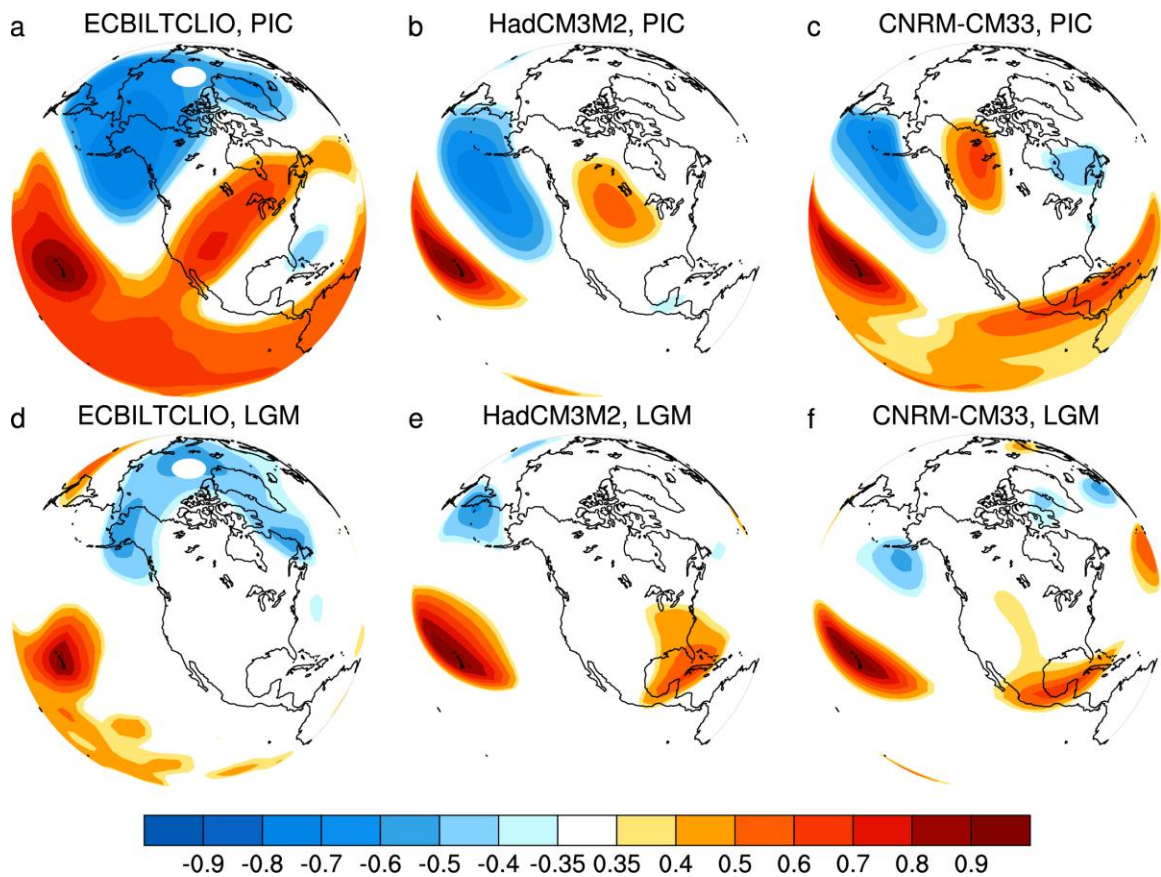


Figure S3. One-point correlation maps of 500 hPa geopotential heights in DJF in three other PMIP2 models. Upper panels: PIC simulations, and lower panels: LGM simulations. The base point is near Hawaii. The correlation coefficient of 0.35 corresponds to the 95% confidence level for 30-year correlations.

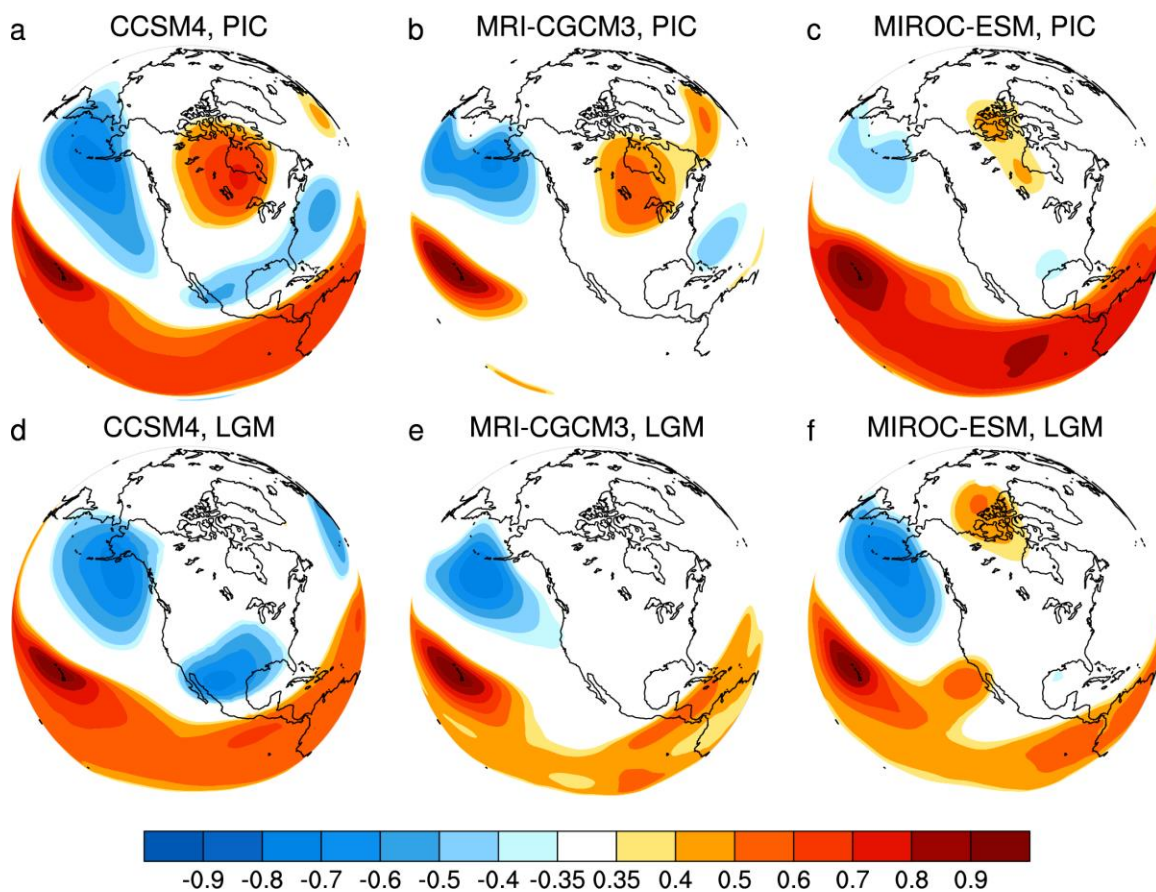


Figure S4. One-point correlation maps of 500 hPa geopotential heights in DJF in three other PMIP3 models. Upper panels: PIC simulations, and lower panels: LGM simulations. The base point is near Hawaii. The correlation coefficient of 0.35 corresponds to the 95% confidence level for 30-year correlations.

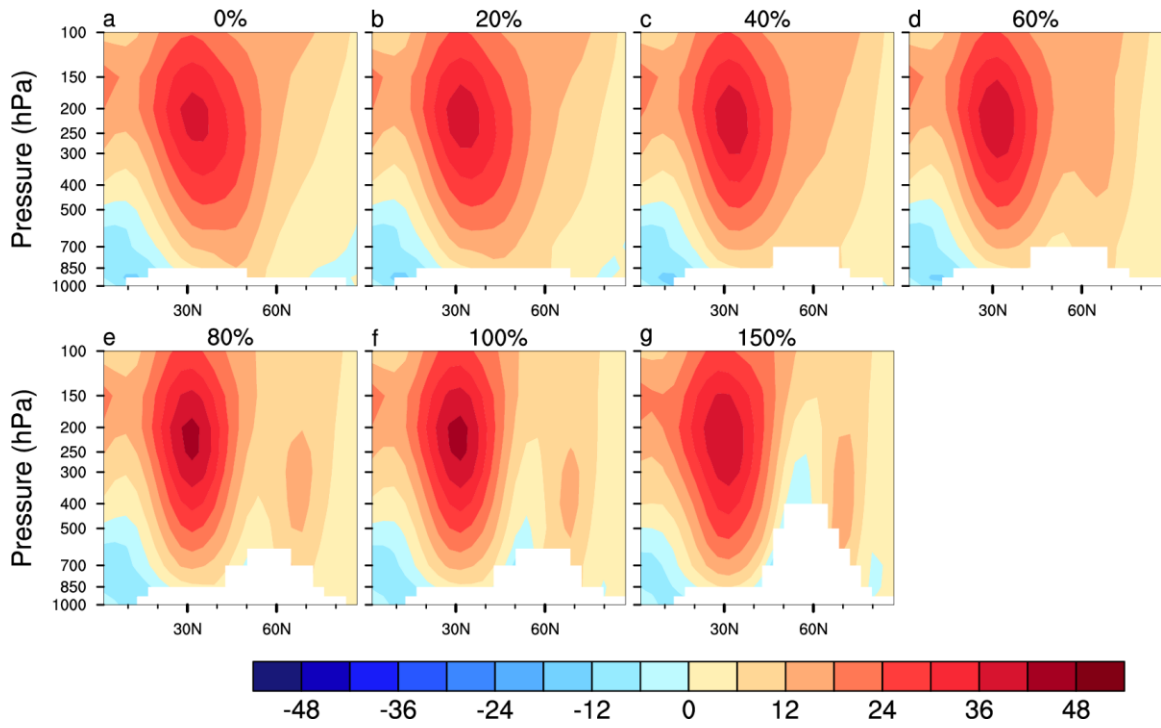


Figure S5. Vertical cross sections of DJF zonal winds along the longitude of 100 °W in sensitivity simulations with different ice sheet thicknesses. (a) 0%, (b) 20%, (c) 40%, (d) 60%, (e) 80%, (f) 100%, and (g) 150%. The color interval is 6 ms⁻¹.

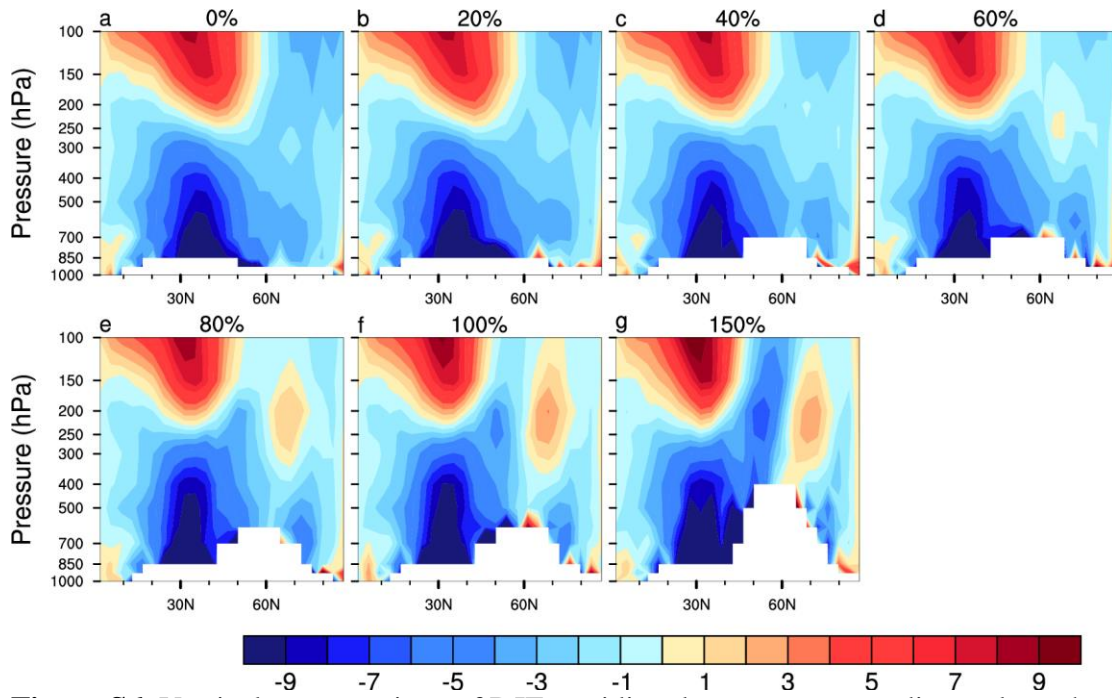


Figure S6. Vertical cross sections of DJF meridional temperature gradients along the longitude of 100°W in sensitivity simulations with different ice sheet thicknesses. (a) 0%, (b) 20%, (c) 40%, (d) 60%, (e) 80%, (f) 100%, and (g) 150%. The color interval is 1 K/(1000 km).

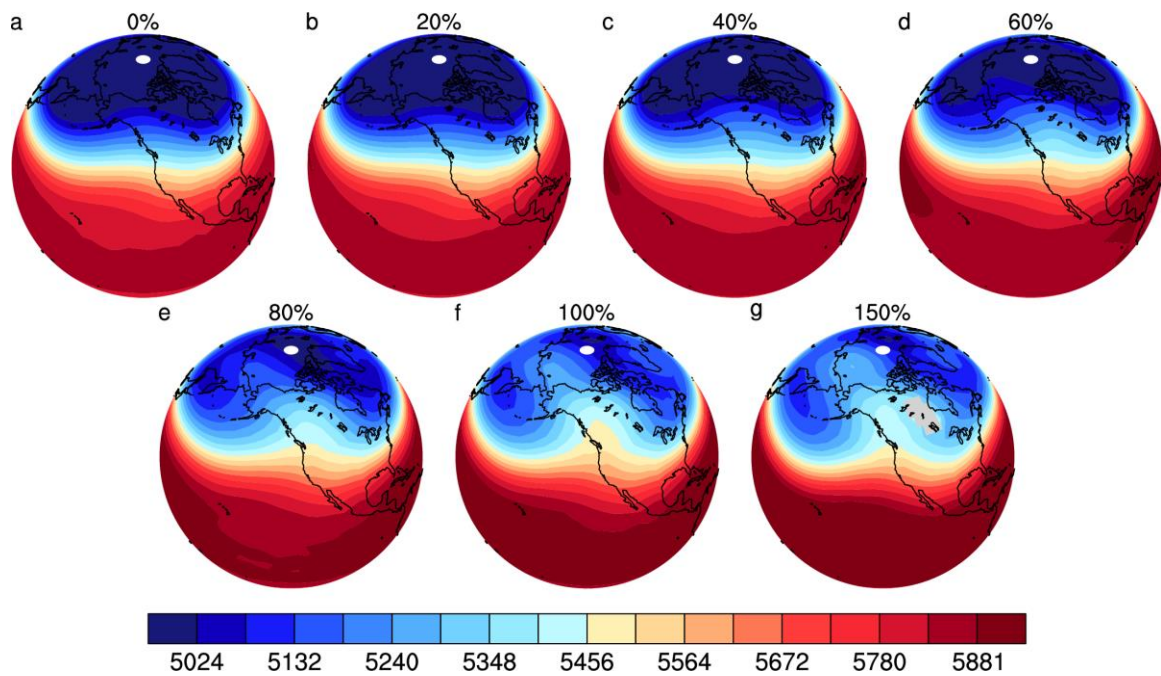


Figure S7. Climatological mean geopotential heights at 500 hPa in DJF in sensitivity simulations, with different ice sheet thicknesses. (a) 0%, (b) 20%, (c) 40%, (d) 60%, (e) 80%, (f) 100%, and (g) 150%. The unit is meter.

Table S1. The horizontal resolution of the PMIP2 (red) and PMIP3 (blue) models.

Model name	Horizontal resolution (Lon×Lat)
CCSM3	2.8 °×2.8 °
ECBILTCIO	5.6 °×5.6 °
CNRM-CM33	2.8 °×2.8 °
HadCM3M2	3.8 °×2.5 °
IPSL-CM4-V1-MR	3.8 °×2.5 °
FGOLAS-1.0g	2.8 °×3.0 °
MIROC3.2	2.8 °×2.8 °
CCSM4	1.3 °×0.9 °
MRI-CGCM3	1.1 °×1.1 °
MIROC-ESM	2.8 °×2.8 °
CNRM-CM5	1.4 °×1.4 °
FGOALS-g2	2.8 °×3.0 °
GISS-E2-R	2.5 °×2.0 °
IPSL-CM5A-LR	3.8 °×1.9 °
MPI-ESM-P	1.9 °×1.9 °