

Supplementary Figures and Tables

January 6, 2016

List of Figures

1	Linear trend in simulated (top) vs. reconstructed precipitation between 6k and present day based on BMA (middle) and WA (bottom).	2
2	Climate variables with the highest λ_1/λ_2 ratio in modern vegetation, reconstructed climate and fossil vegetation and simulated climate and fossil vegetation.	2
3	Simulated fossil vegetation variance explained by simulated climate variables in RDA	3
4	Evaluation of the reconstruction skill (BMA).	3
5	Modern spatial vegetation variance.	4
6	Fossil vegetation variance explained by the reconstructed climate variables in RDA.	4
7	Comparison of spatial calibration (a) and temporal downcore RMSEP (b) and their difference (c) for a BMA based reconstruction of MTWA.	4

List of Tables

1	JSBACH bioclimatic temperature limits for the PFTs in the coupled model simulation.	5
---	---	---

1 Figures

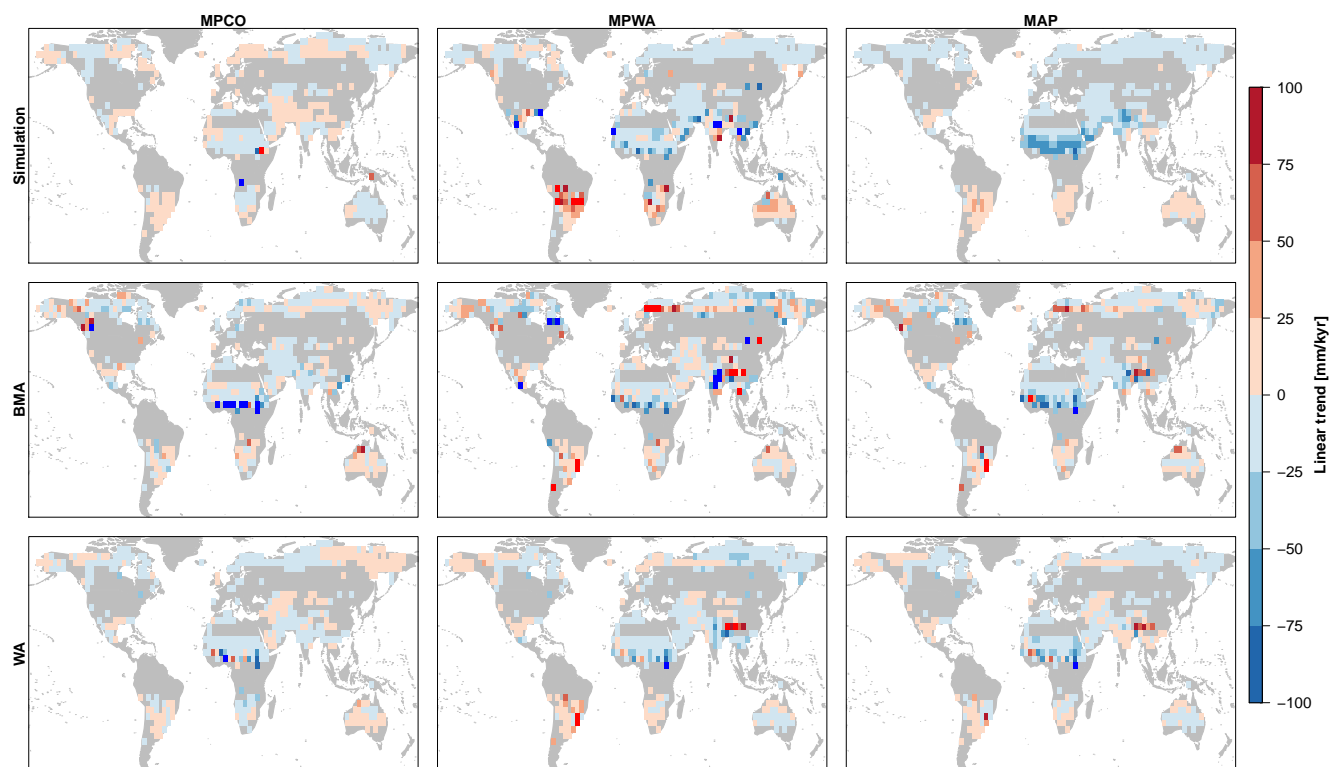


Figure 1: Linear trend in simulated (top) vs. reconstructed precipitation between 6k and present day based on BMA (middle) and WA (bottom).

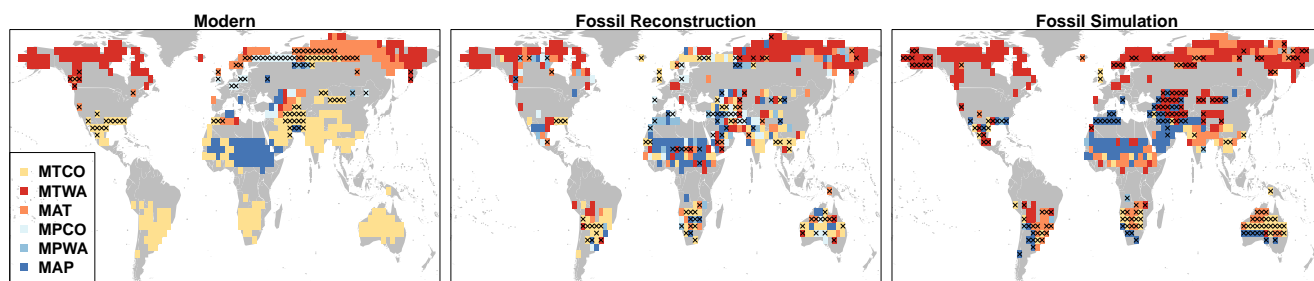


Figure 2: Climate variables with the highest λ_1/λ_2 ratio based on CCA in modern vegetation (a), on RDA between reconstructed climate and fossil vegetation (b) and simulated climate and fossil vegetation (c). Black circles mark grid cells where the most prominent gradient ratio is still below 1.

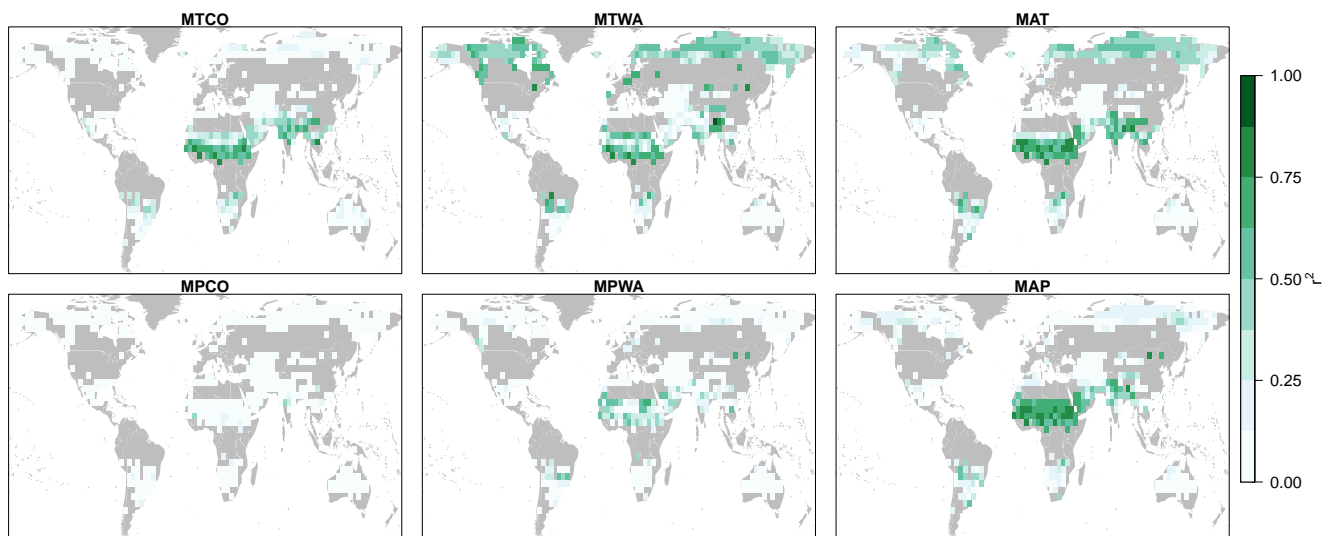


Figure 3: Simulated fossil vegetation variance explained by simulated climate variables in RDA. High values indicate, whether a climate variable was driving vegetation changes - or that its temporal changes were correlated to another such variable.

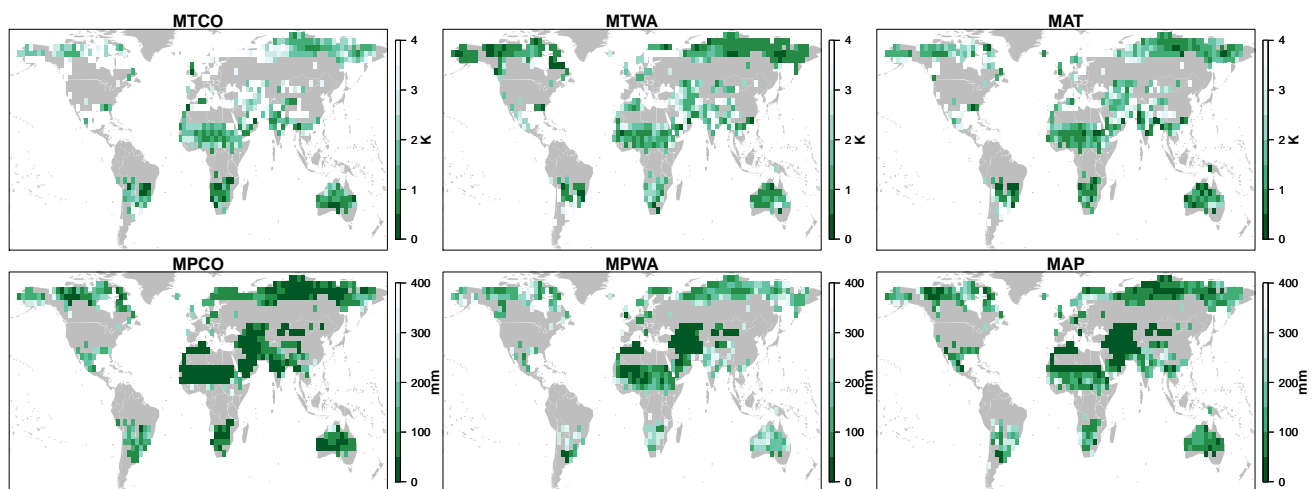


Figure 4: Evaluation of the reconstruction skill. Temporal RMSE of the climate variables reconstructed with the BMA method.

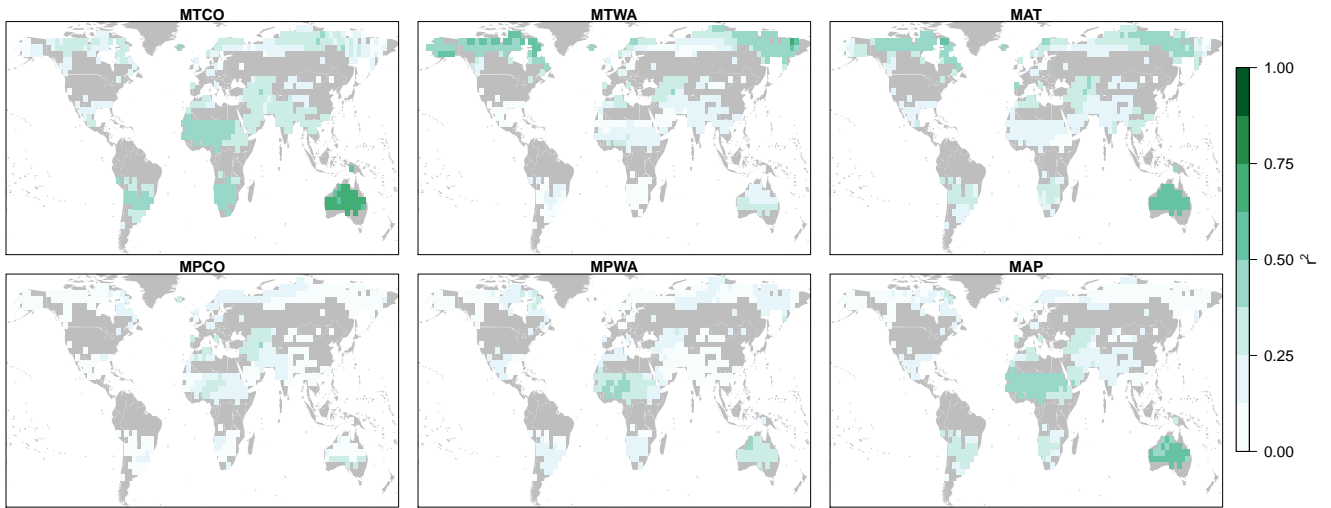


Figure 5: Modern spatial vegetation variance, based on CCA, explained by climate variables across modern space. High values indicate that climate variable and vegetation changes within the 2500km radius are correlated.

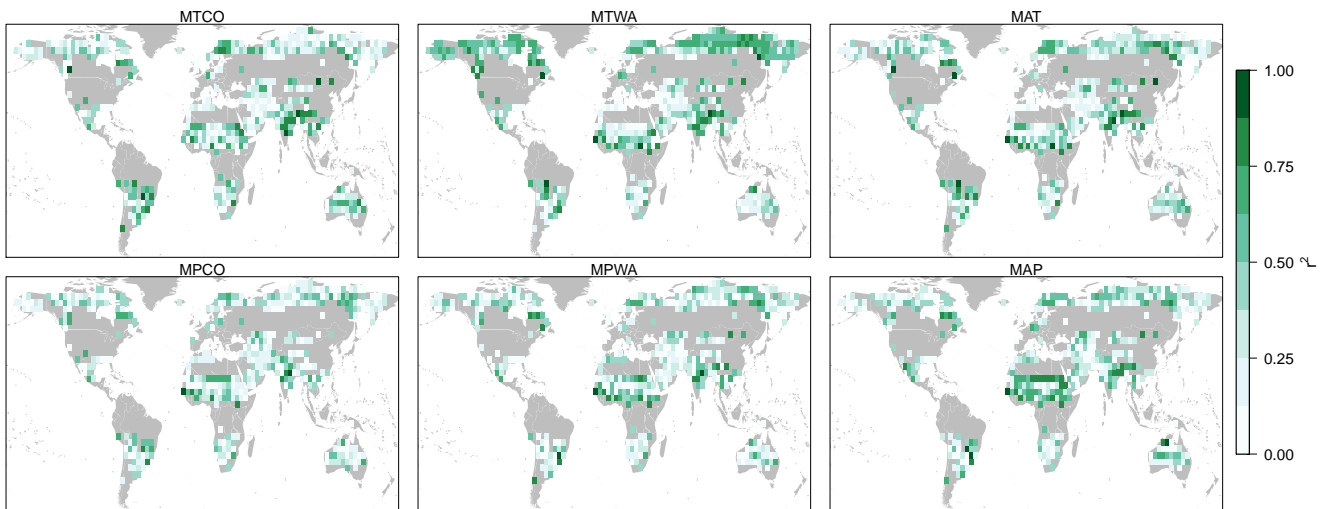


Figure 6: Fossil vegetation variance explained by the reconstructed climate variables in RDA. High values indicate that the reconstructed climate variability is correlated in time with vegetation variability.

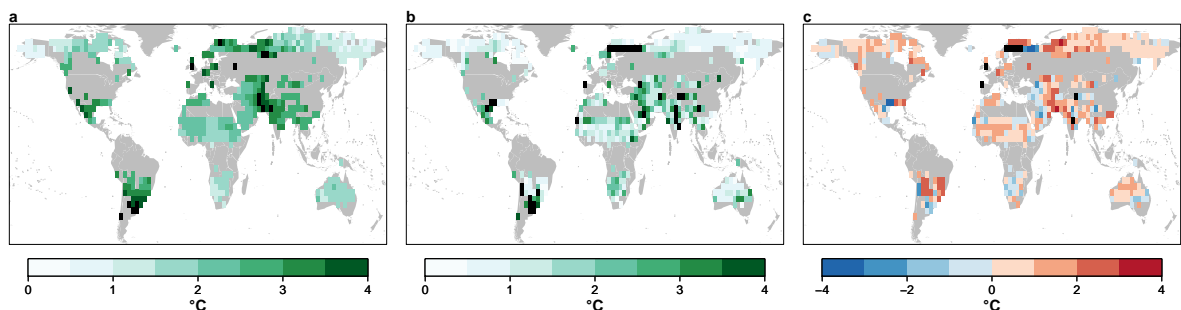


Figure 7: Comparison of spatial calibration (a) and temporal downcore RMSEP (b) and their difference (c) for a BMA based reconstruction of MTWA.

2 Tables

Table 1: Bioclimatic temperature limits for the PFTs in the coupled model simulation. Growing degree days (GDD5) are given as the temperature sum of days which exceed 5°C. Adapted from Dallmeyer et al. (2011).

PFT	landcover/phenology	MTCO_{min} [°C]	MTCO_{max} [°C]	MTWA_{max} [°C]	GDD5 [°C]
teT	tropical evergreen trees	15.5	–	–	0
tdT	tropical deciduous trees	15.5	–	–	0
eteT	extratropical evergreen trees	-32.5	18.5	–	350
etdT	extratropical deciduous trees	–	18.5	–	350
rS	raingreen shrubs	0	–	–	900
cS	cold shrubs	–	-2	18	300
C3	C3 grass	–	15	–	0
C4	C4 grass	10	–	–	0