Supplementary Information: Global patterns of forest autotrophic carbon fluxes

Rebecca Banbury Morgan, Valentine Herrmann, Norbert Kunert, Ben Bond-Lamberty, Helene C. Muller-Landau, Kristina J. Anderson-Teixeira

List of Tables

List of Figures

Table S1. Climate variable definitions and sources

Climate variable	Units	Definition	Source
Mean annual temperature (MAT)	°C		Primary literature; WorldClim[1]
Mean annual precipitation (MAP)	mm yr^{-1}		Primary literature; WorldClim[1]
Temperature seasonality		Standard deviation of MAT *100	WorldClim[1]
Precipitation seasonality		Coefficient of variation of MAP	WorldClim[1]
Annual temperature range	°C	Maximum temperature of warmest month - minimum temperature of coldest month	WorldClim[1]
Solar radiation	kJ $m^{-2}yr^{-1}$		WorldClim2[2]
Cloud cover	percentage	Cloud percentage cover	CRU time-series dataset v 4.03[3]
Annual frost days	days yr^{-1}	Number of freeze days annually	CRU time-series dataset v 4.03[3]
Annual wet days	days yr^{-1}	Number of days with precipitation >0.1 mm annually	CRU time-series dataset v 4.03[3]
Potential evapotranspiration (PET)	mm yr^{-1}	Mean annual potential evapotranspiration	Global Aridity Index and Potential Evapotranspiration Climate Database[4]
Aridity		MAP/mean annual PET	Global Aridity Index and Potential Evapotranspiration Climate Database[4]
Vapour pressure deficit (VPD)	kPa		TerraClimate[5]
Maximum vapour pressure deficit (Max VPD)	kPa		Derived
Water stress months	months yr^{-1}	Number of months annually with MAP < PET	Derived
Length of growing season	months yr^{-1}	Number of months annually with mean minimum temperature > 0.5°C	Derived

Table S__. Comparison of growing season length and mean annual temperature as predictors of FACF.
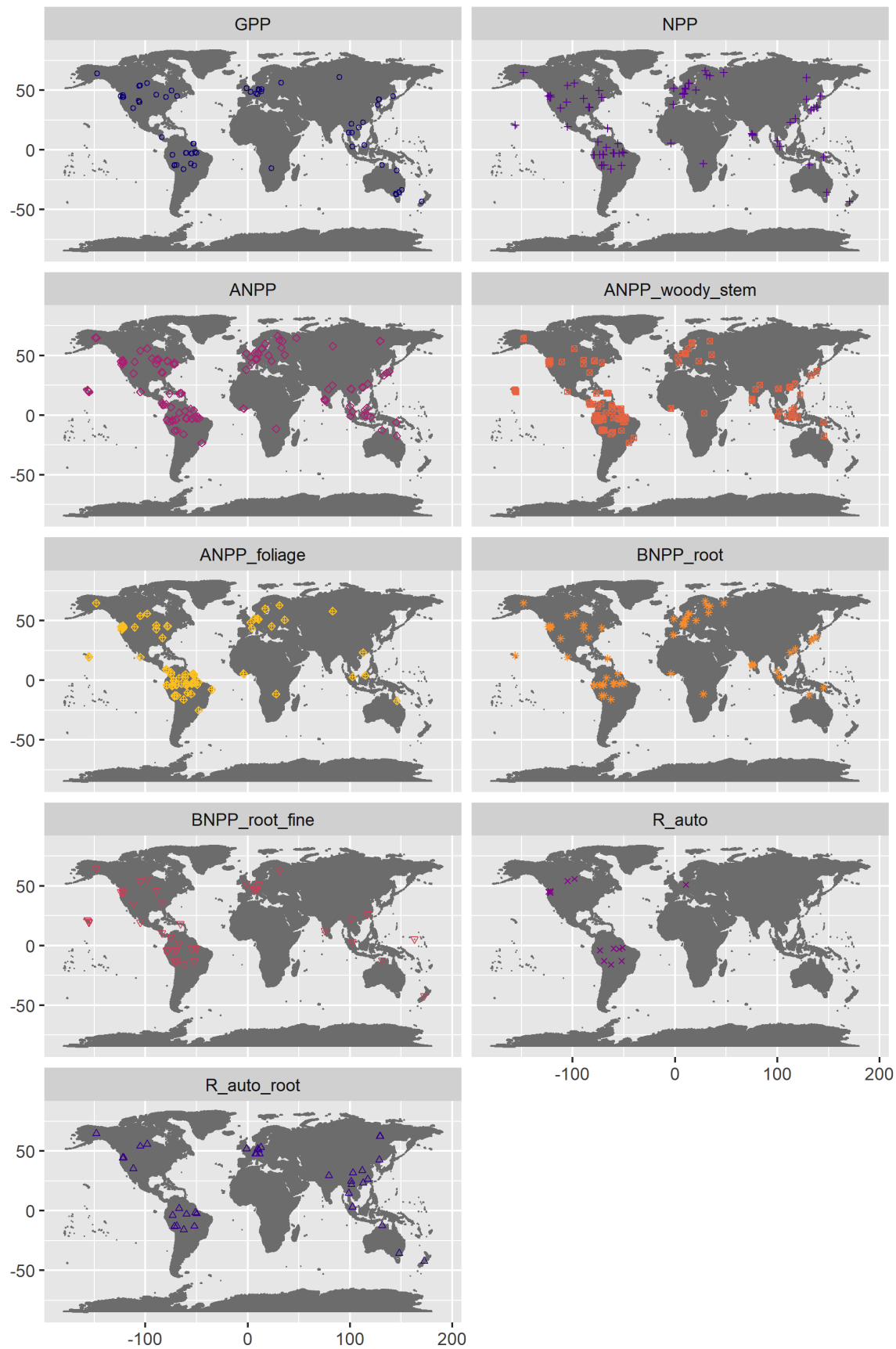
see issue #58.

Figure S1. Geographic distribution of samples for each of the nine FACF analyzed here.
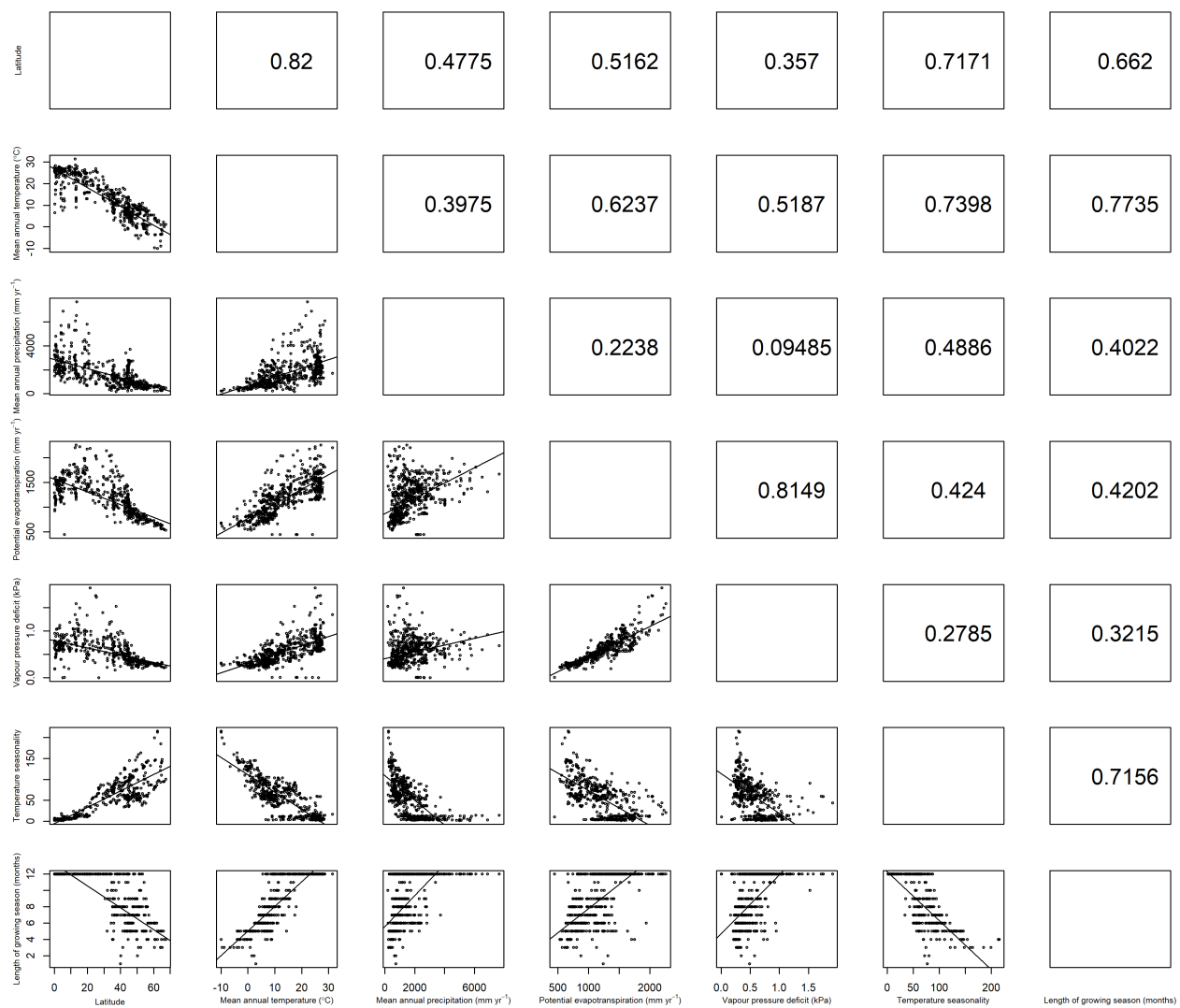
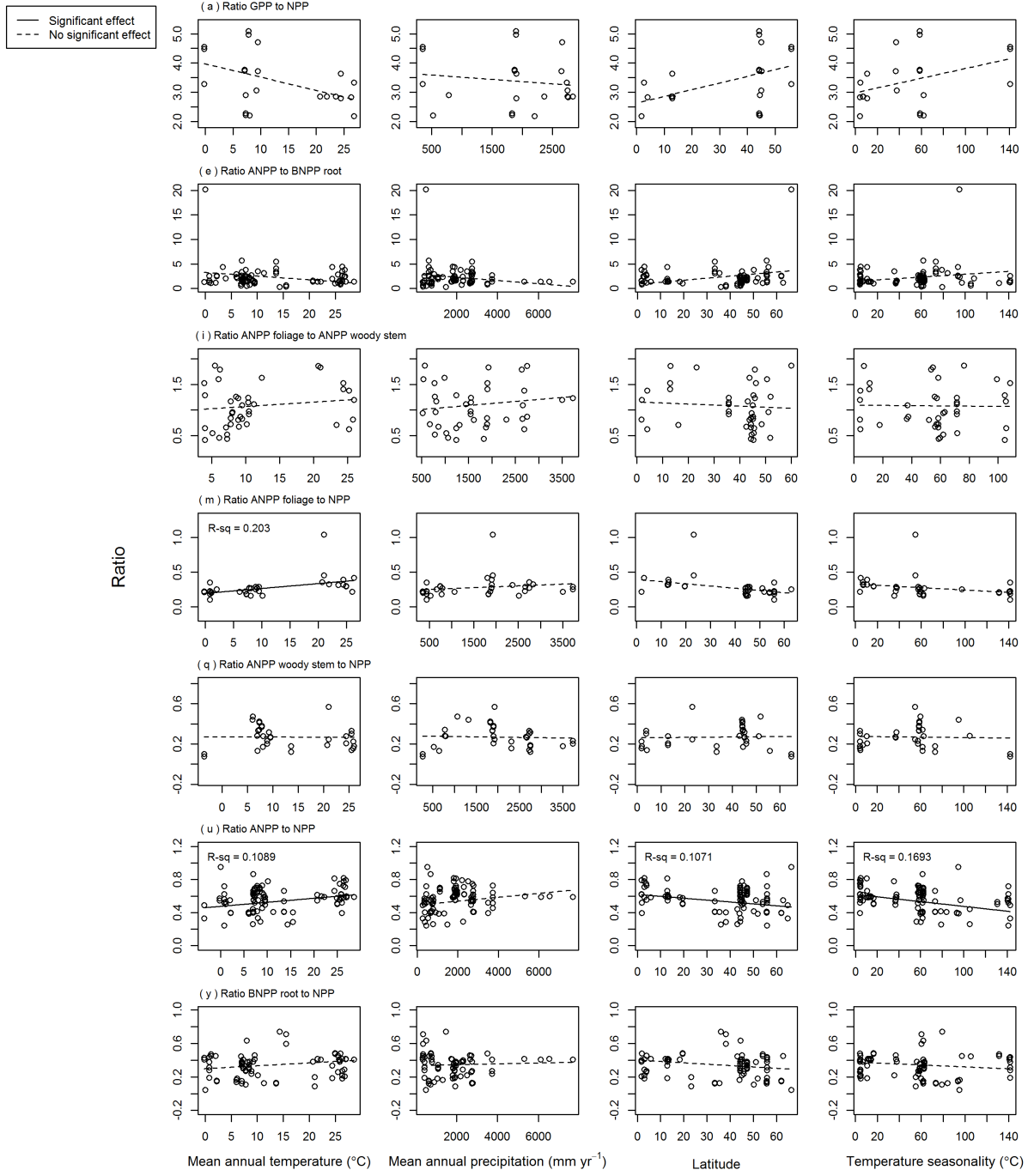Figure S2. Correlations among latitude and climate variables

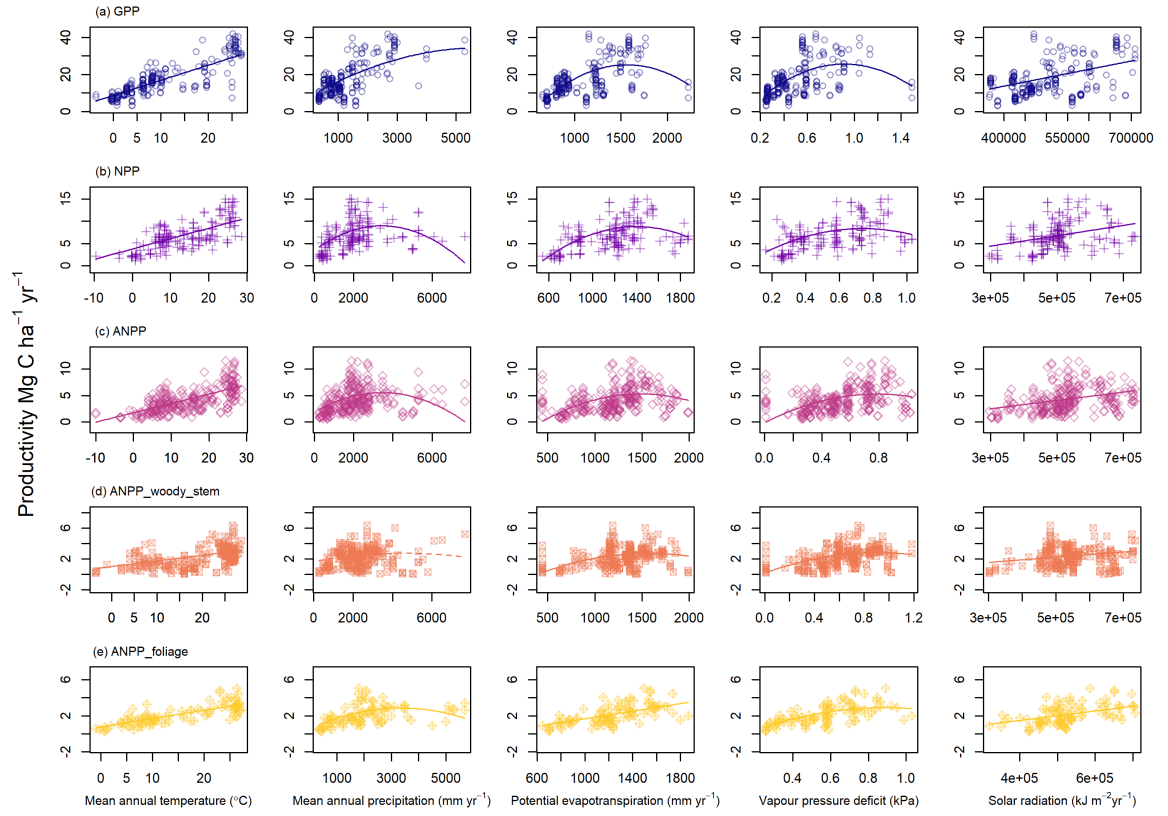Figure S3. Ratios among FACF as a function of latitude and climate variables

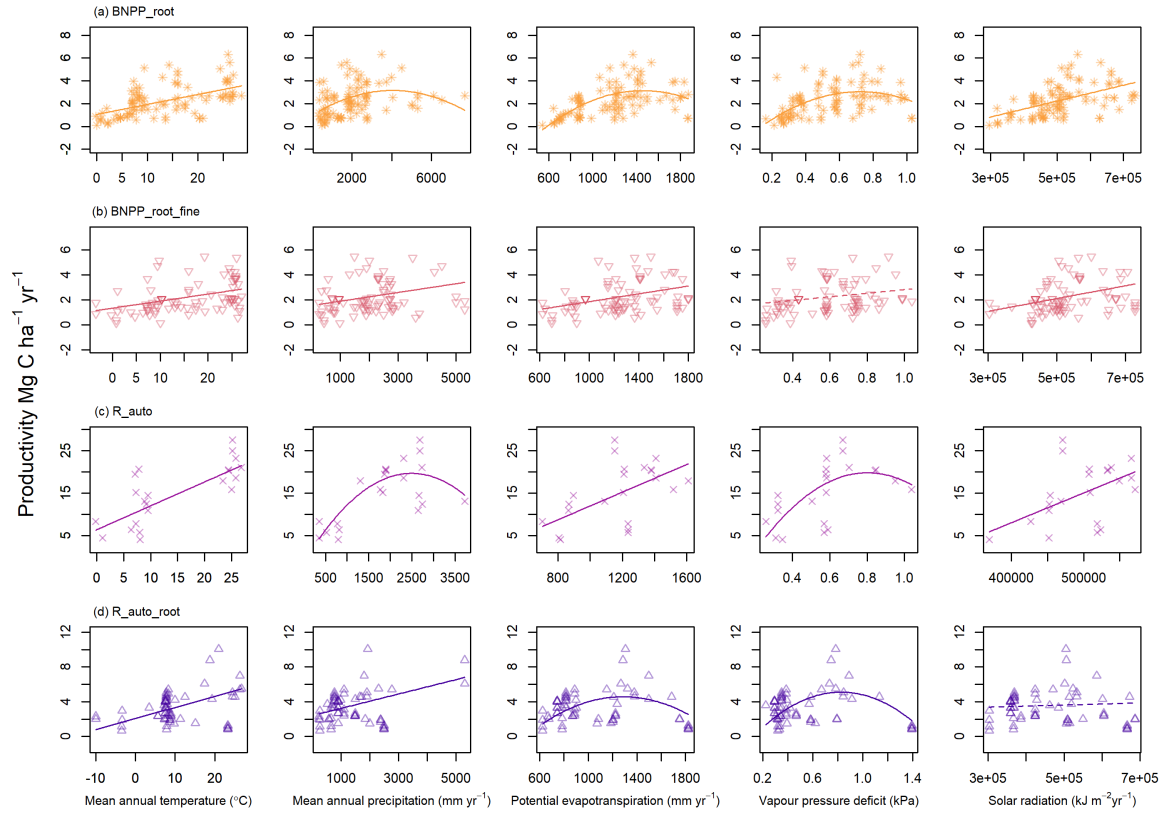Figure S4. Individual plots of FACF in relation to mean annual climate, part 1.

Figure S5. Individual plots of FACF in relation to mean annual climate, part 2.
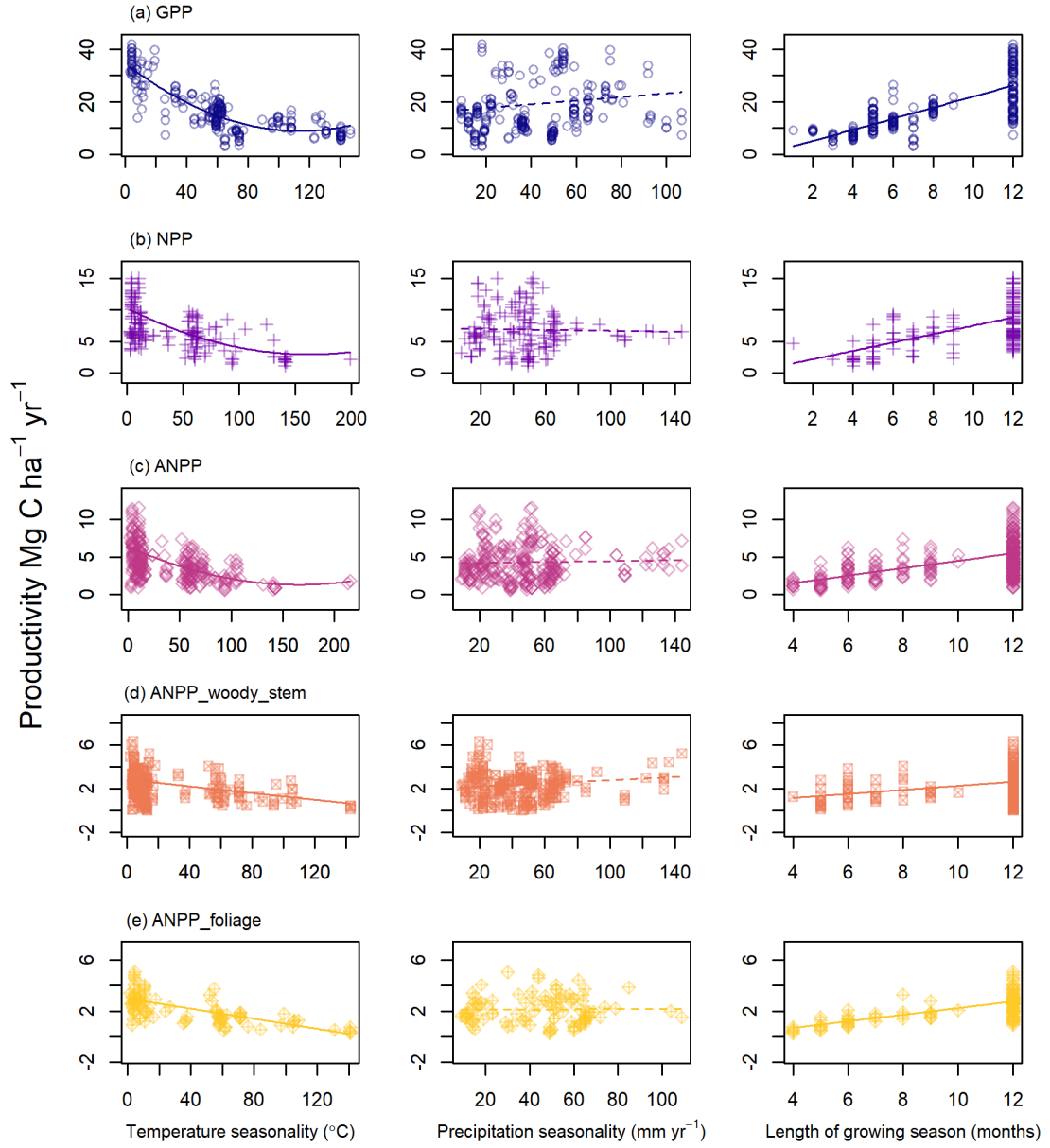
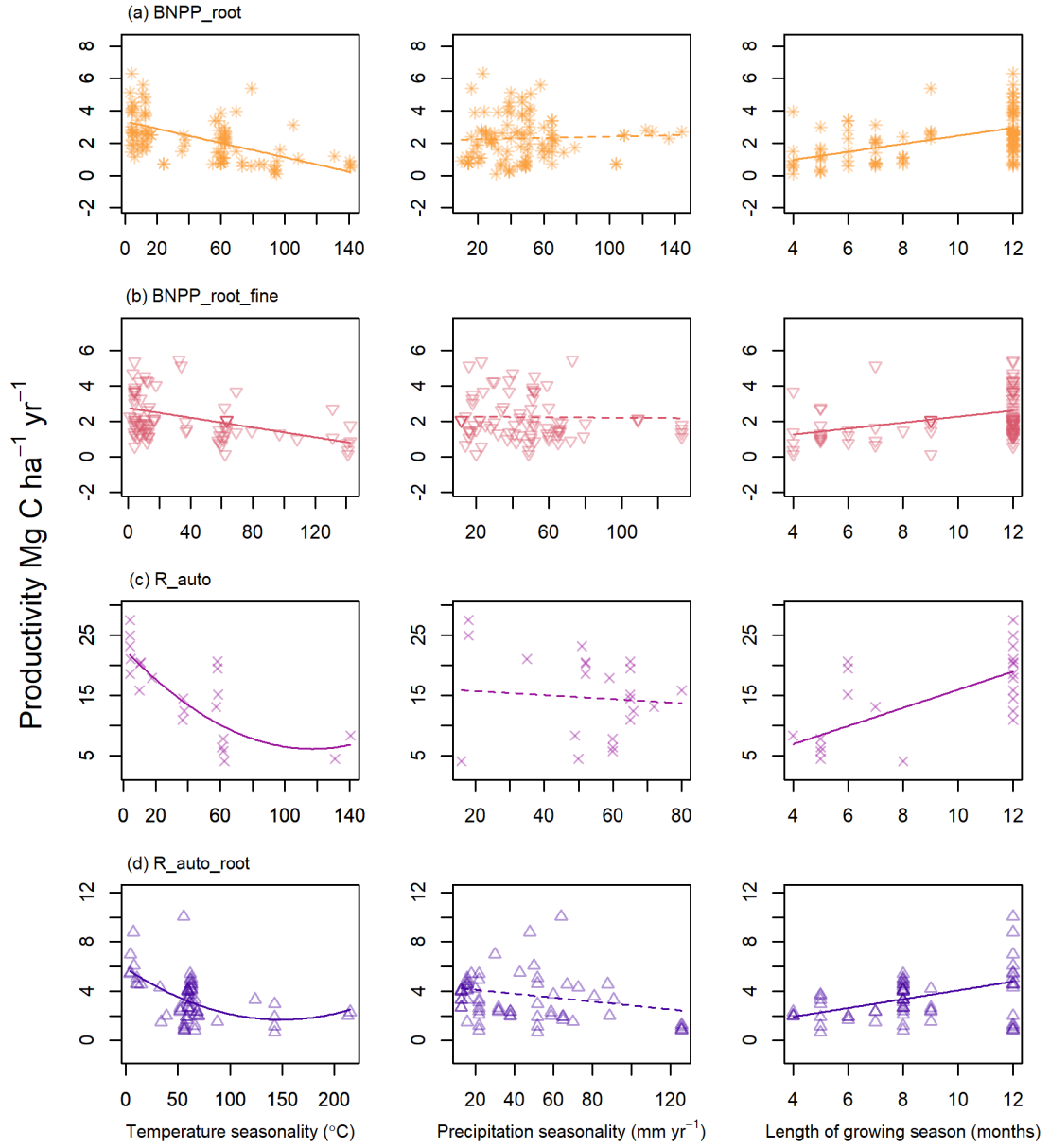Figure S6. Individual plots of FACF in relation to mean climate seasonality, part 1.

Figure S7. Individual plots of FACF in relation to mean climate seasonality, part 2.
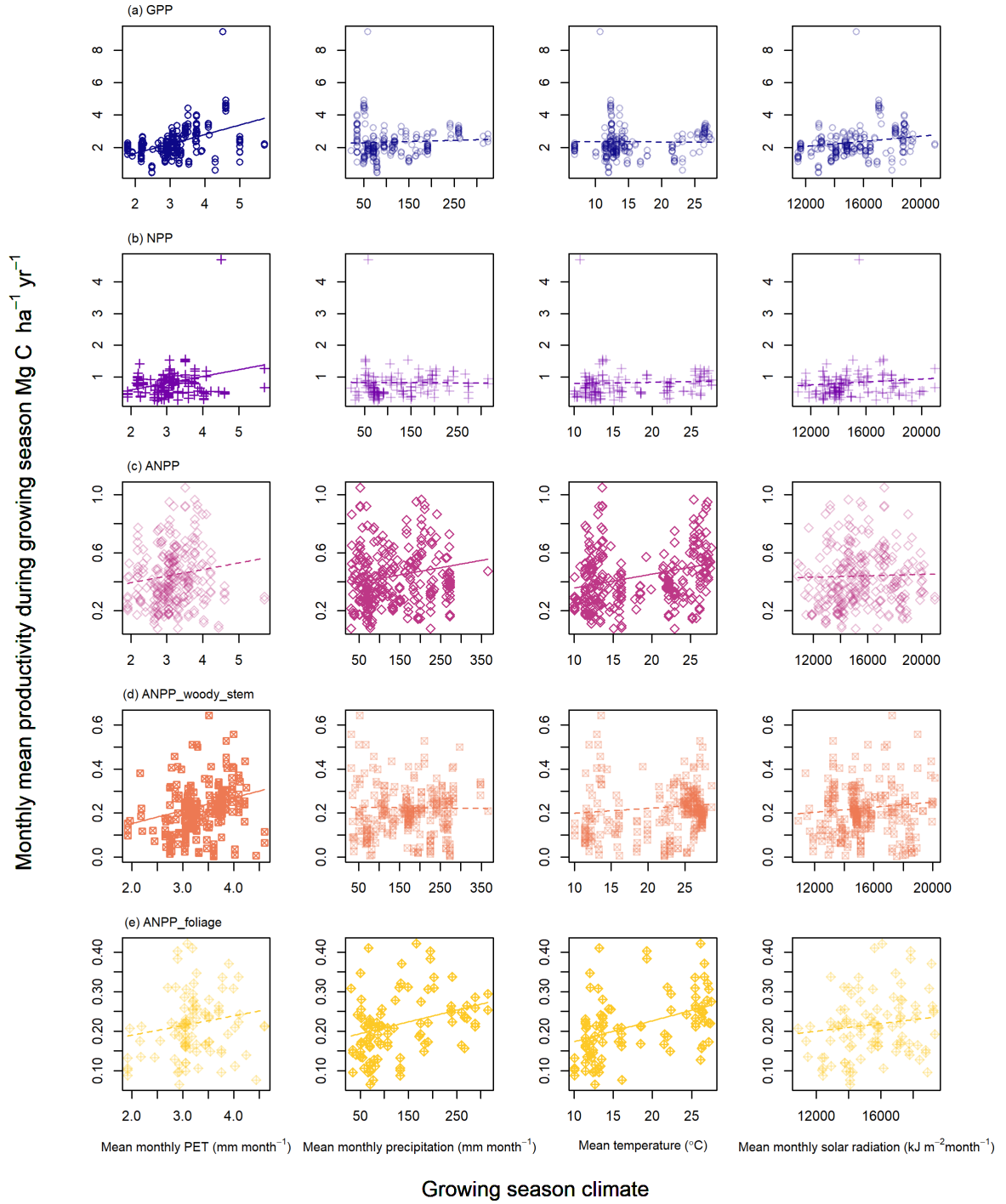
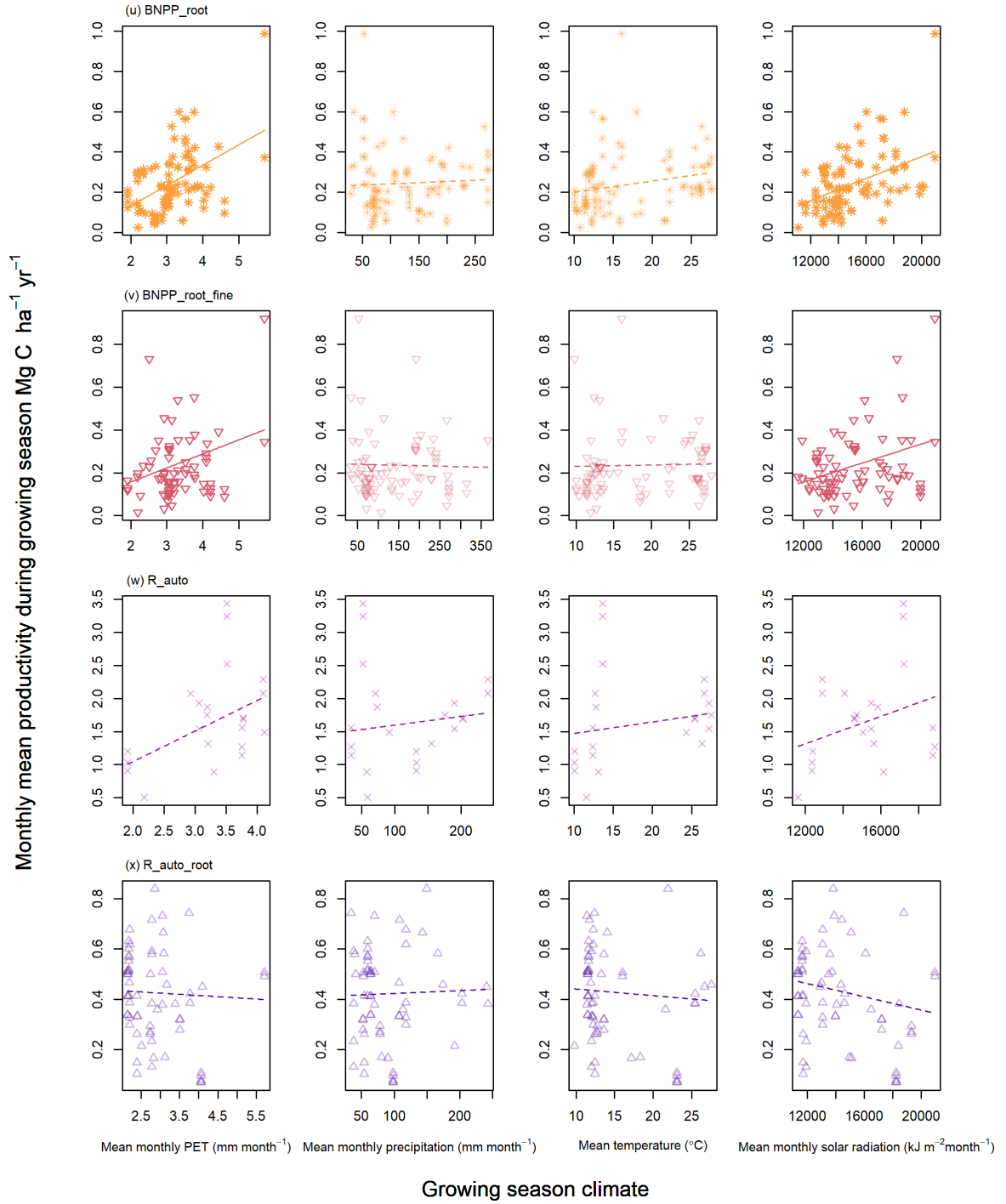Figure S8. Growing season length-standardized FACF in relation to mean growing season climate, part 1.

Figure S9. Growing season length-standardized FACF in relation to mean growing season climate, part 2.