Supplement for: Carbon cycling in mature and regrowth forests globally: a macroecological synthesis based on the global Forest Carbon (ForC) database

Contents

Appendix S1. Duplicates and Conflicting Records within ForC

Status of duplicates and conflicting records within ForC

Generating ForC_simplified

Replicate measurements (*i.e.*, replicates from within a single study) were averaged. Records that subsumed others— **i.e.**, the time period included that of ≥ 2 other records or dates were unknown and therefore conflicted with ≥ 2 other records—were removed. For each group of duplicate records—*i.e.*, measurements of the same variable in the same plot at the same time—one record was assigned precedence (recorded in D.precedence field). When measurement periods overlapped or were not specified, precedence was given first to records representing longer measurement periods (*i.e.*, end.date - start.date) and then to more recently published values. We manually reviewed duplicates that differed only in methodology, assigning precedence to the record employing a more comprehensive approach (*e.g.*, inclusion of understory, lianas, or bamboo as opposed to just trees) or using a favored methodology.

Table S1. Numbers of records by biome and age class

	n records	
Biome	Mature	Young
Boreal climate zones		
Boreal broadleaf	3	408
Boreal conifer	**614**	**1352**
Boreal Other	53	302
Excluded climate zones		
Other broadleaf	8	128
Other conifer	30	68
Other Other	6	41
Temperate climate zones		
Temperate broadleaf	**877**	**3327**
Temperate conifer	**784**	**3134**
Temperate Other	211	2697
Tropical climate zones		
Tropical broadleaf	**1292**	**3467**
Tropical conifer	3	13
Tropical Other	8	0

Sample sizes refer to data set after merging of duplicates, removal of stands with no age or history data, and removal of managed and disturbed stands. For vegetation type, "Other" refers to stands that are mixed broadleaf/ conifer or that have not been classified. Focal biomes are indicated in bold.

Table S2. Model parameter estimates for age trends and biome differences in young forests

Variable	Parameter	Estimate	SE	t_{value}
NEP	log10(stand.age)	1.47	0.75	1.97
NEP	BiomeTemperate broadleaf	-0.14	1.23	-0.11
NEP	BiomeTemperate conifer	-1.9	0.72	-2.66
NEP	BiomeBoreal conifer	0.78	1	0.78
NEP	log10(stand.age):BiomeTemperate conifer	2.2	0.85	2.59
NEP	log10(stand.age):BiomeBoreal conifer	-1.41	0.93	-1.52
GPP	log10(stand.age)	5.08	2.31	2.2
GPP	BiomeTemperate broadleaf	7.04	3.52	2
GPP	BiomeTemperate conifer	9.57	2.24	4.27
GPP	BiomeBoreal conifer	3.33	3.25	1.02
GPP	log10(stand.age):BiomeTemperate conifer	0.04	2.57	0.02
GPP	log10(stand.age):BiomeBoreal conifer	-1.93	2.86	-0.67
NPP	log10(stand.age)	1.24	0.75	1.66
NPP	BiomeTropical broadleaf	9.66	1.77	5.47
NPP	BiomeTemperate broadleaf	4.89	1.37	3.58
NPP	BiomeTemperate conifer	4.1	1.26	3.26
NPP	BiomeBoreal conifer	1.58	1.54	1.03
$ANPP$	log10(stand.age)	5.46	0.94	5.81
$ANPP$	BiomeTropical broadleaf	-1.25	1.53	-0.81
$ANPP$	BiomeTemperate broadleaf	0.98	1.14	0.86
$ANPP$	BiomeTemperate conifer	1.42	1	1.43
$ANPP$	BiomeBoreal conifer	0.48	1.41	0.34
$ANPP$	log10(stand.age):BiomeTemperate broadleaf	-3.19	1.15	-2.77
$ANPP$	log10(stand.age):BiomeTemperate conifer	-4.23	1.13	-3.75
$ANPP$	log10(stand.age):BiomeBoreal conifer	-4.32	1.24	-3.48
$ANPP_{woody}$	log10(stand.age)	2.96	3.89	0.76
$ANPP_{woody}$	BiomeTemperate broadleaf	-2.34	6.94	-0.34
$ANPP_{woody}$	BiomeTemperate conifer	-0.05	0.89	-0.06
$ANPP_{woody}$	BiomeBoreal conifer	0.71	1.9	0.37
$ANPP_{woody}$	log10(stand.age):BiomeTemperate conifer	-1.03	3.9	-0.26
$ANPP_{woody}$	log10(stand.age):BiomeBoreal conifer	-2.36	4.04	-0.59
$ANPP_{stem}$	log10(stand.age)	-0.03	0.8	-0.03
$ANPP_{stem}$	BiomeTropical broadleaf	2.38	1.24	1.92
$ANPP_{stem}$	BiomeTemperate broadleaf	2.86	0.66	4.33
$ANPP_{stem}$	BiomeTemperate conifer	-0.83	0.75	-1.1
$ANPP_{stem}$	BiomeBoreal conifer	-0.37	1.64	-0.23

(continued)

Variable	Parameter	Estimate	SE	t_{value}
$ANPP_{stem}$	log10(stand.age):BiomeTemperate broadleaf	-0.03	0.9	-0.04
$ANPP_{stem}$	log10(stand.age):BiomeTemperate conifer	2.28	0.93	2.45
$ANPP_{stem}$	log10(stand.age):BiomeBoreal conifer	0.78	1.28	0.61
$ANPP_{branch}$	log10(stand.age)	0.22	0.13	1.62
$ANPP_{branch}$	BiomeTemperate broadleaf	0.31	0.29	1.07
$ANPP_{branch}$	BiomeTemperate conifer	-0.02	0.23	-0.08
$ANPP_{foliage}$	log10(stand.age)	1.33	0.16	8.4
$ANPP_{foliage}$	BiomeTropical broadleaf	0.67	0.54	1.23
$ANPP_{foliage}$	BiomeTemperate broadleaf	-0.14	0.32	-0.43
$ANPP_{foliage}$	BiomeTemperate conifer	-0.48	0.3	-1.61
$ANPP_{foliage}$	BiomeBoreal conifer	-1.52	0.38	-3.98
$ANPP_{litterfall}$	log10(stand.age)	1.42	0.86	1.64
$ANPP_{litterfall}$	BiomeTropical broadleaf	1.85	1.34	1.37
$ANPP_{litterfall}$	BiomeTemperate broadleaf	-0.51	1.6	-0.32
$ANPP_{repro}$	-	-	-	-
$ANPP_{folivory}$	-	-	-	-
M_{woody}	-	-	-	-
$BNPP$	log10(stand.age)	1.13	0.33	3.41
$BNPP$	BiomeTropical broadleaf	2.61	0.76	3.43
$BNPP$	BiomeTemperate broadleaf	0.27	0.59	0.45
$BNPP$	BiomeTemperate conifer	0.14	0.56	0.25
$BNPP$	BiomeBoreal conifer	-0.44	0.71	-0.63
$BNPP_{coarse}$	log10(stand.age)	0.09	0.09	1
$BNPP_{coarse}$	BiomeTemperate broadleaf	0.31	0.16	1.99
$BNPP_{coarse}$	BiomeTemperate conifer	0.59	0.15	3.92
$BNPP_{coarse}$	BiomeBoreal conifer	0.09	0.18	0.5
$BNPP_{fine}$	log10(stand.age)	0.64	0.26	2.45
$BNPP_{fine}$	BiomeTropical broadleaf	4.47	0.61	7.33
$BNPP_{fine}$	BiomeTemperate broadleaf	0.19	0.41	0.45
$BNPP_{fine}$	BiomeTemperate conifer	0.44	0.39	1.13
$BNPP_{fine}$	BiomeBoreal conifer	0.51	0.53	0.97
R_{eco}	log10(stand.age)	2.93	1.4	2.09
R_{eco}	BiomeTemperate broadleaf	7.55	2.28	3.31
R_{eco}	BiomeTemperate conifer	9.67	1.84	5.25
R_{eco}	BiomeBoreal conifer	4.2	2.52	1.67
R_{eco}	log10(stand.age):BiomeTemperate conifer	-1.77	1.75	-1.01
R_{eco}	log10(stand.age):BiomeBoreal conifer	-1.2	1.91	-0.63
R_{auto}	-	-	-	-

(continued)

Variable	Parameter	Estimate	SE	t_{value}
$R_{auto-ag}$	-	-	-	-
R_{root}	log10(stand.age)	1.52	0.47	3.25
R_{root}	BiomeTropical broadleaf	6.03	0.85	7.1
R_{root}	BiomeTemperate broadleaf	1.22	0.8	1.53
R_{root}	BiomeTemperate conifer	1.37	0.74	1.84
R_{root}	BiomeBoreal conifer	-0.94	0.97	-0.97
R_{soil}	log10(stand.age)	0.13	0.33	0.39
R_{soil}	BiomeTropical broadleaf	12.85	0.93	13.75
R_{soil}	BiomeTemperate broadleaf	9.05	0.64	14.21
R_{soil}	BiomeTemperate conifer	8.02	0.59	13.59
R_{soil}	BiomeBoreal conifer	4.63	0.97	4.77
$R_{het-soil}$	log10(stand.age)	0	1.08	0
$R_{het-soil}$	BiomeTropical broadleaf	5.78	1.3	4.46
$R_{het-soil}$	BiomeTemperate broadleaf	2.95	1.3	2.26
$R_{het-soil}$	BiomeTemperate conifer	3.61	0.91	3.96
$R_{het-soil}$	BiomeBoreal conifer	1.1	1.53	0.72
$R_{het-soil}$	log10(stand.age):BiomeTemperate broadleaf	1.16	1.38	0.84
$R_{het-soil}$	log10(stand.age):BiomeTemperate conifer	0.58	1.25	0.47
$R_{het-soil}$	log10(stand.age):BiomeBoreal conifer	1.23	1.4	0.88
B_{tot}	log10(stand.age)	48.29	7.6	6.35
B_{tot}	BiomeTropical broadleaf	-2.61	19.13	-0.14
B_{tot}	BiomeTemperate broadleaf	-8.9	29.5	-0.3
B_{tot}	BiomeTemperate conifer	25.03	21.87	1.14
B_{tot}	BiomeBoreal conifer	-201.94	46.45	-4.35
B_{tot}	log10(stand.age):BiomeTemperate broadleaf	20.13	17.79	1.13
B_{tot}	log10(stand.age):BiomeTemperate conifer	-7.41	14.36	-0.52
B_{tot}	log10(stand.age):BiomeBoreal conifer	93.94	25.33	3.71
B_{ag}	log10(stand.age)	59.63	1.75	34.05
B_{ag}	BiomeTropical broadleaf	-18.86	3.34	-5.64
B_{ag}	BiomeTemperate broadleaf	-40.11	6.06	-6.62
B_{ag}	BiomeTemperate conifer	-59.09	6.42	-9.21
B_{ag}	BiomeBoreal conifer	-59.99	14.04	-4.27
B_{ag}	log10(stand.age):BiomeTemperate broadleaf	-1.21	4.06	-0.3
B_{ag}	log10(stand.age):BiomeTemperate conifer	6.68	4.31	1.55
B_{ag}	log10(stand.age):BiomeBoreal conifer	-1.96	8.1	-0.24
$B_{ag-wood}$	log10(stand.age)	43.04	19.12	2.25
$B_{ag-wood}$	BiomeTropical broadleaf	-9.96	31.58	-0.32
$B_{ag-wood}$	BiomeTemperate broadleaf	-49.19	40.47	-1.22

(continued)

Variable	Parameter	Estimate	SE	t_{value}
$B_{ag-wood}$	BiomeTemperate conifer	-180.05	30.71	-5.86
$B_{ag-wood}$	BiomeBoreal conifer	-89.11	62.5	-1.43
$B_{ag-wood}$	log10(stand.age):BiomeTemperate broadleaf	37.51	32.42	1.16
$B_{ag-wood}$	log10(stand.age):BiomeTemperate conifer	131.73	27.05	4.87
$B_{ag-wood}$	log10(stand.age):BiomeBoreal conifer	29.8	39.34	0.76
$B_{foliage}$	log10(stand.age)	2.42	0.34	7.23
$B_{foliage}$	BiomeTropical broadleaf	1.45	0.81	1.79
$B_{foliage}$	BiomeTemperate broadleaf	0.93	0.77	1.22
$B_{foliage}$	BiomeTemperate conifer	-4.39	1.16	-3.77
$B_{foliage}$	BiomeBoreal conifer	-2.1	2.04	-1.03
$B_{foliage}$	log10(stand.age):BiomeTemperate broadleaf	-1.69	0.51	-3.31
$B_{foliage}$	log10(stand.age):BiomeTemperate conifer	3.79	0.77	4.94
$B_{foliage}$	log10(stand.age):BiomeBoreal conifer	0.12	1.12	0.11
B_{root}	log10(stand.age)	10.2	0.84	12.14
B_{root}	BiomeTropical broadleaf	-1.33	1.97	-0.67
B_{root}	BiomeTemperate broadleaf	-6.25	1.92	-3.25
B_{root}	BiomeTemperate conifer	-9.16	1.71	-5.35
B_{root}	BiomeBoreal conifer	-11.07	4.13	-2.68
B_{root}	log10(stand.age):BiomeTemperate broadleaf	1.78	1.44	1.24
B_{root}	log10(stand.age):BiomeTemperate conifer	1.13	1.34	0.84
B_{root}	log10(stand.age):BiomeBoreal conifer	2.86	2.42	1.18
$B_{root-coarse}$	log10(stand.age)	10.11	5.24	1.93
$B_{root-coarse}$	BiomeTropical broadleaf	-5.28	8.87	-0.6
$B_{root-coarse}$	BiomeTemperate broadleaf	-1.63	7.2	-0.23
$B_{root-coarse}$	BiomeTemperate conifer	-39.7	7.55	-5.25
$B_{root-coarse}$	BiomeBoreal conifer	-35.49	18.92	-1.88
$B_{root-coarse}$	log10(stand.age):BiomeTemperate broadleaf	-0.25	6.92	-0.04
$B_{root-coarse}$	log10(stand.age):BiomeTemperate conifer	27.6	7.04	3.92
$B_{root-coarse}$	log10(stand.age):BiomeBoreal conifer	15.11	10.75	1.41
$B_{root-fine}$	log10(stand.age)	-0.06	0.2	-0.28
$B_{root-fine}$	BiomeTropical broadleaf	2.72	2.41	1.13
$B_{root-fine}$	BiomeTemperate broadleaf	2.64	1.19	2.21
$B_{root-fine}$	BiomeTemperate conifer	2.67	1.2	2.22
$B_{root-fine}$	BiomeBoreal conifer	11.92	2.92	4.08
DW_{tot}	log10(stand.age)	2.9	0.95	3.04
DW_{tot}	BiomeTropical broadleaf	1.69	2.78	0.61
DW_{tot}	BiomeTemperate broadleaf	16.83	7.58	2.22
DW_{tot}	log10(stand.age):BiomeTemperate broadleaf	-1.07	3.31	-0.32

(continued)

Variable	Parameter	Estimate	SE	t_{value}
$DW_{standing}$	-	-	-	-
DW_{down}	log10(stand.age)	2.87	1.71	1.68
DW_{down}	BiomeTropical broadleaf	4.27	3.57	1.2
DW_{down}	BiomeTemperate broadleaf	15.17	11.89	1.28
DW_{down}	BiomeTemperate conifer	45.34	6.68	6.79
DW_{down}	BiomeBoreal conifer	45.2	10.93	4.14
DW_{down}	log10(stand.age):BiomeTemperate broadleaf	-9.03	7.67	-1.18
DW_{down}	log10(stand.age):BiomeTemperate conifer	-13.9	3.45	-4.03
DW_{down}	log10(stand.age):BiomeBoreal conifer	-22.38	6.99	-3.2
OL	log10(stand.age)	0.51	0.76	0.67
OL	BiomeTropical broadleaf	3.42	2.34	1.46
OL	BiomeTemperate broadleaf	13.85	3.39	4.08
OL	BiomeTemperate conifer	0.87	2.93	0.3
OL	BiomeBoreal conifer	35.84	5.89	6.09
OL	log10(stand.age):BiomeTemperate broadleaf	-2.58	2.04	-1.26
OL	log10(stand.age):BiomeTemperate conifer	6.28	1.59	3.96
OL	log10(stand.age):BiomeBoreal conifer	3	3.68	0.82

Figure S1. Age trends and biome differences for NEP

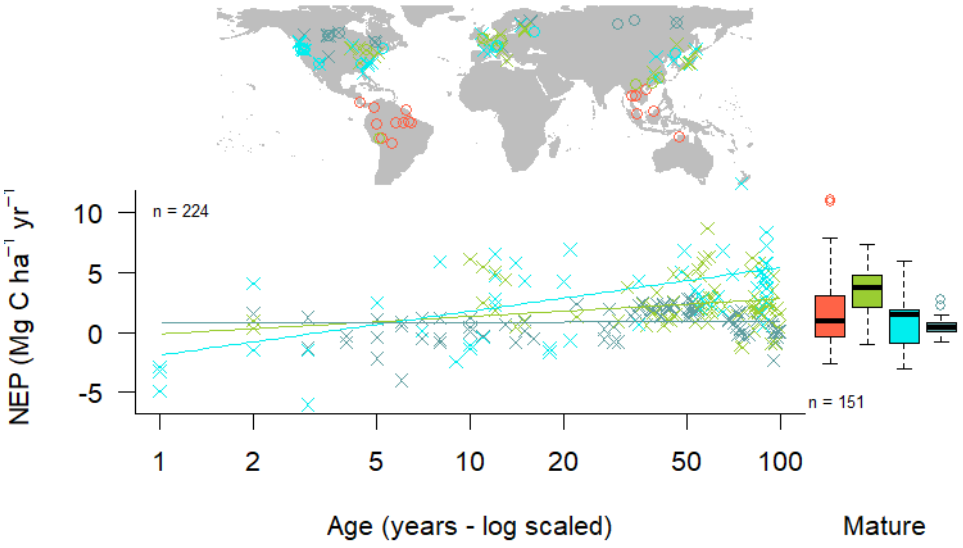

Figure S1 | Age trends and biome differences for NEP. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S2. Age trends and biome differences for GPP

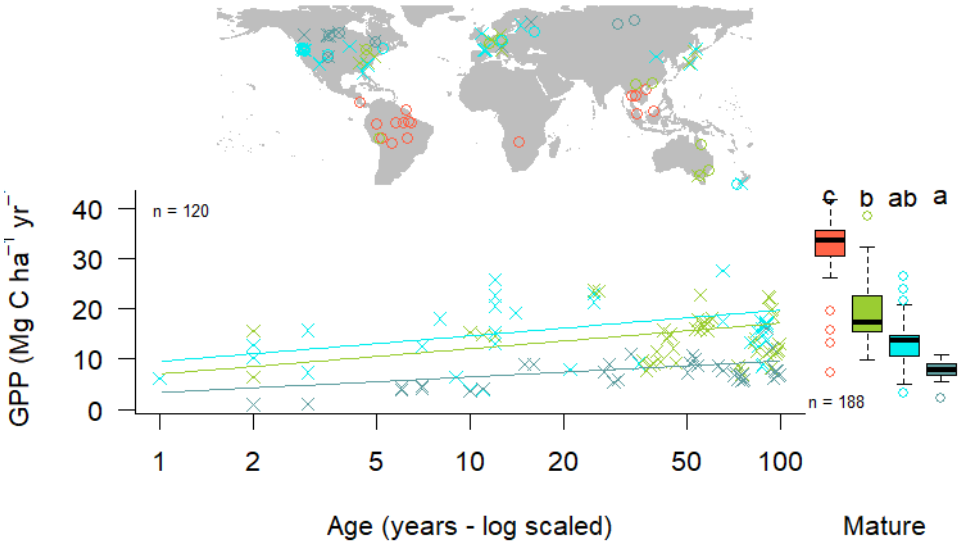

Figure S2 | Age trends and biome differences for GPP. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S3. Age trends and biome differences for NPP

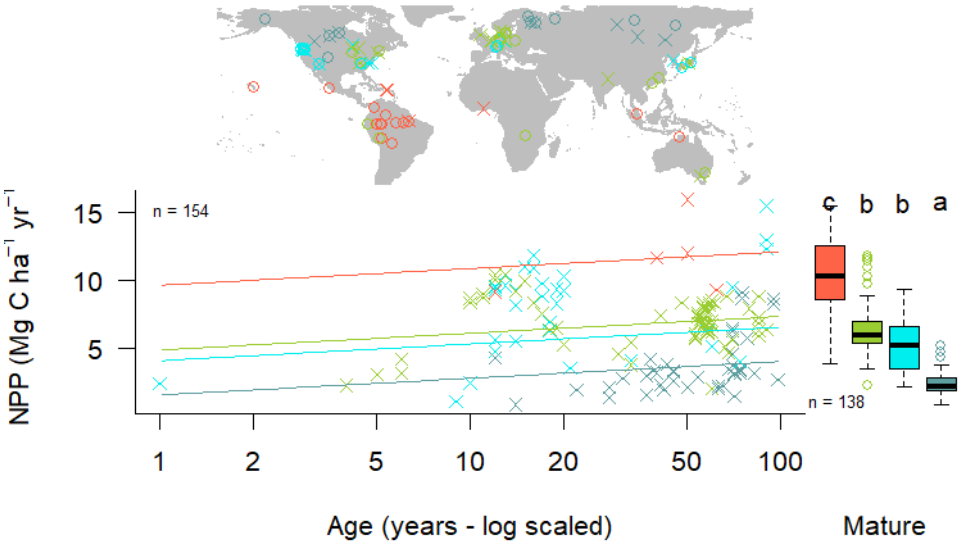

Figure S3 | Age trends and biome differences for NPP. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S4. Age trends and biome differences for $ANPP$

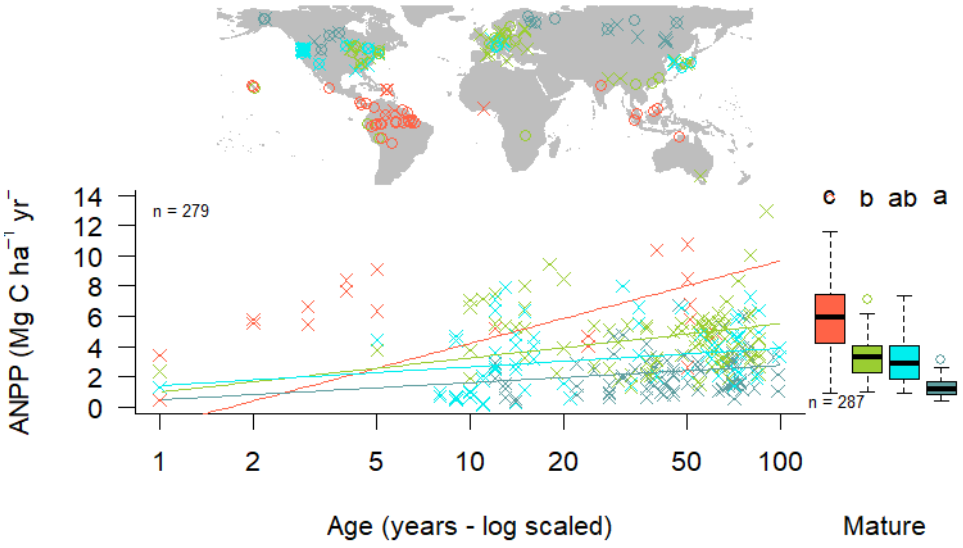

Figure S4 | Age trends and biome differences for $ANPP$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S5. Age trends and biome differences for $ANPP_{woody}$

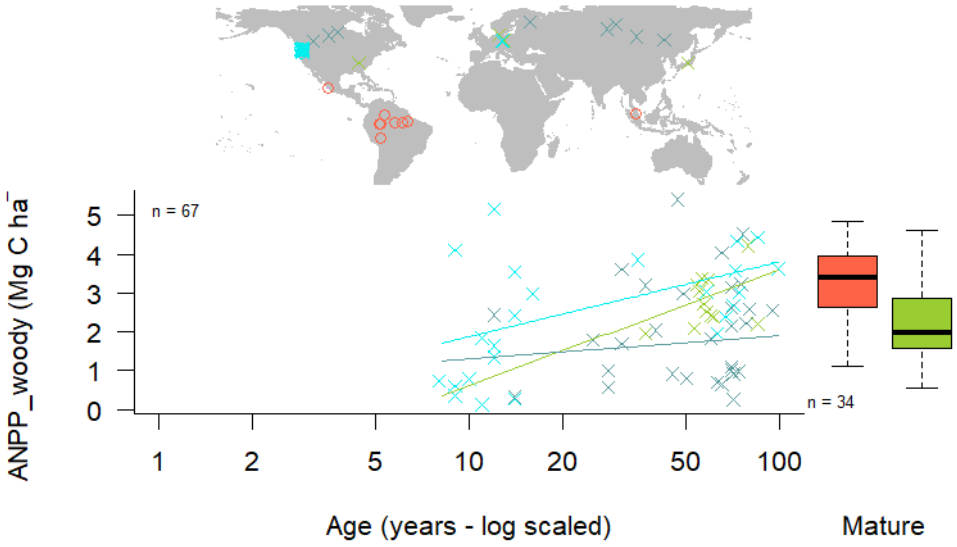

Figure S5 | Age trends and biome differences for $ANPP_{woody}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S6. Age trends and biome differences for $ANPP_{stem}$

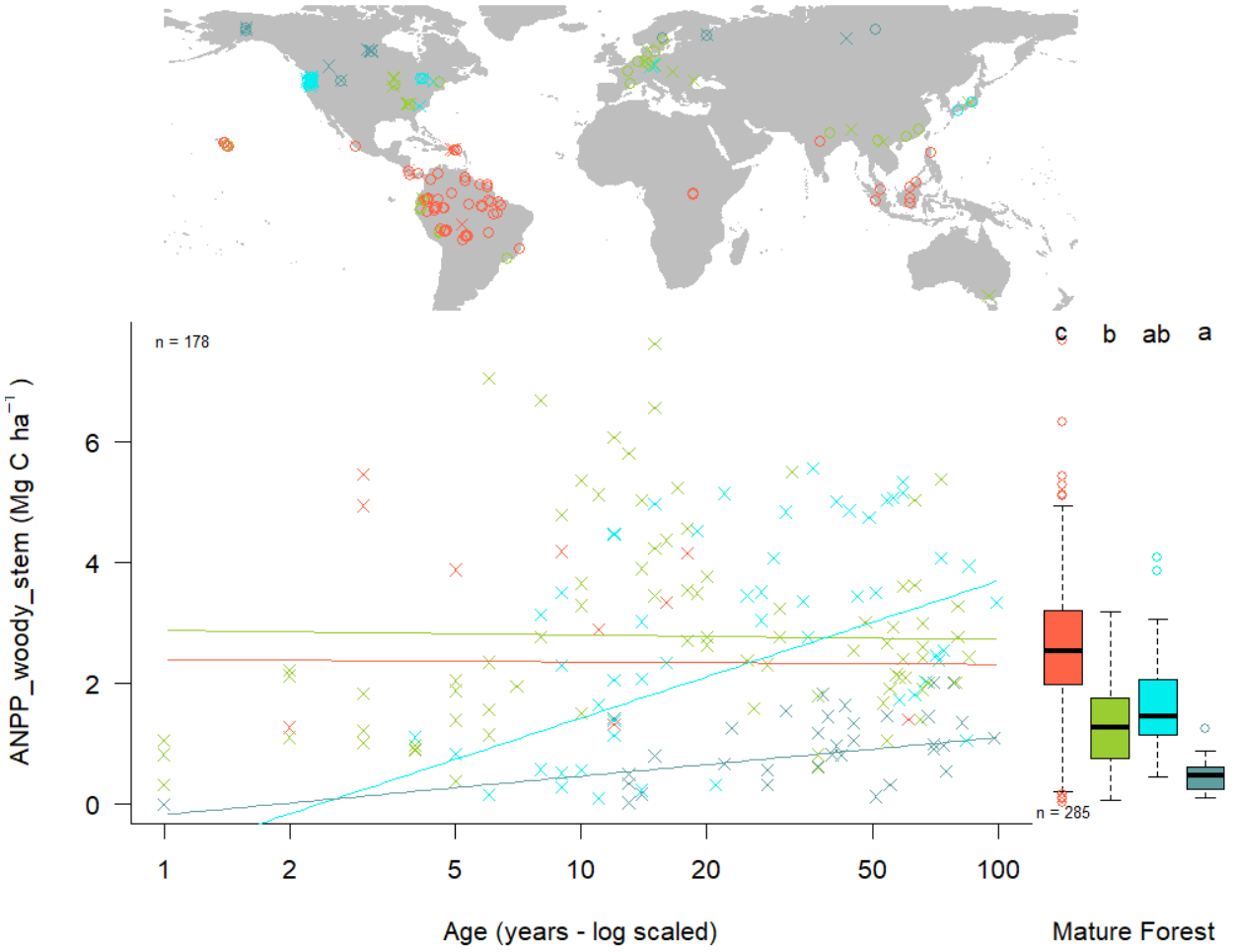

Figure S6 | Age trends and biome differences for $ANPP_{stem}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S7. Age trends and biome differences for $ANPP_{foliage}$

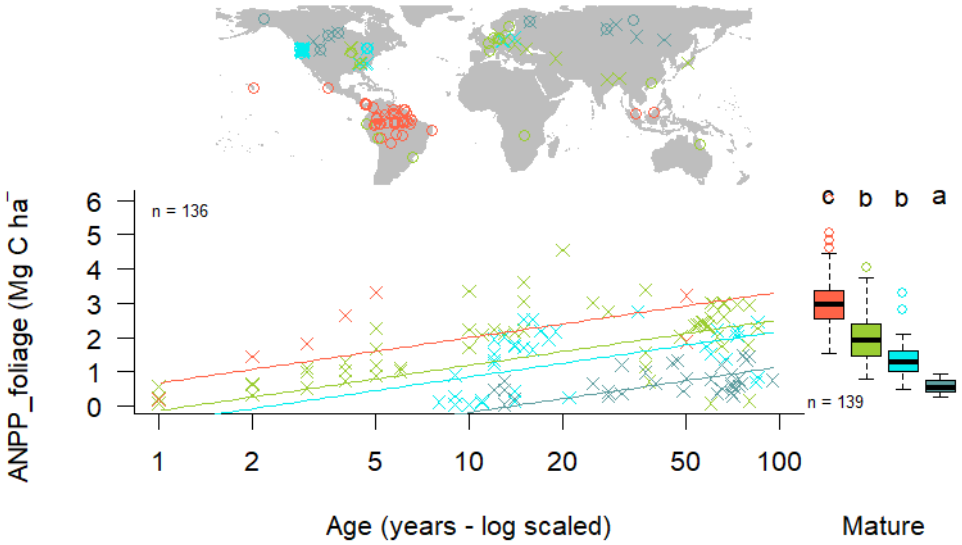

Figure S7 | Age trends and biome differences for $ANPP_{foliage}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S8. Age trends and biome differences for $ANPP_{litterfall}$

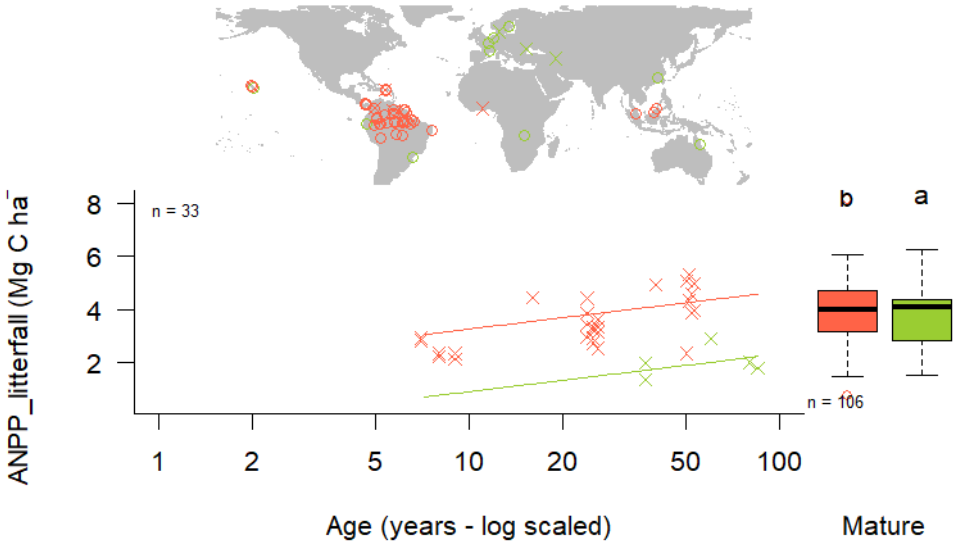

Figure S8 | Age trends and biome differences for $ANPP_{litterfall}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S9. Age trends and biome differences for $BNPP$

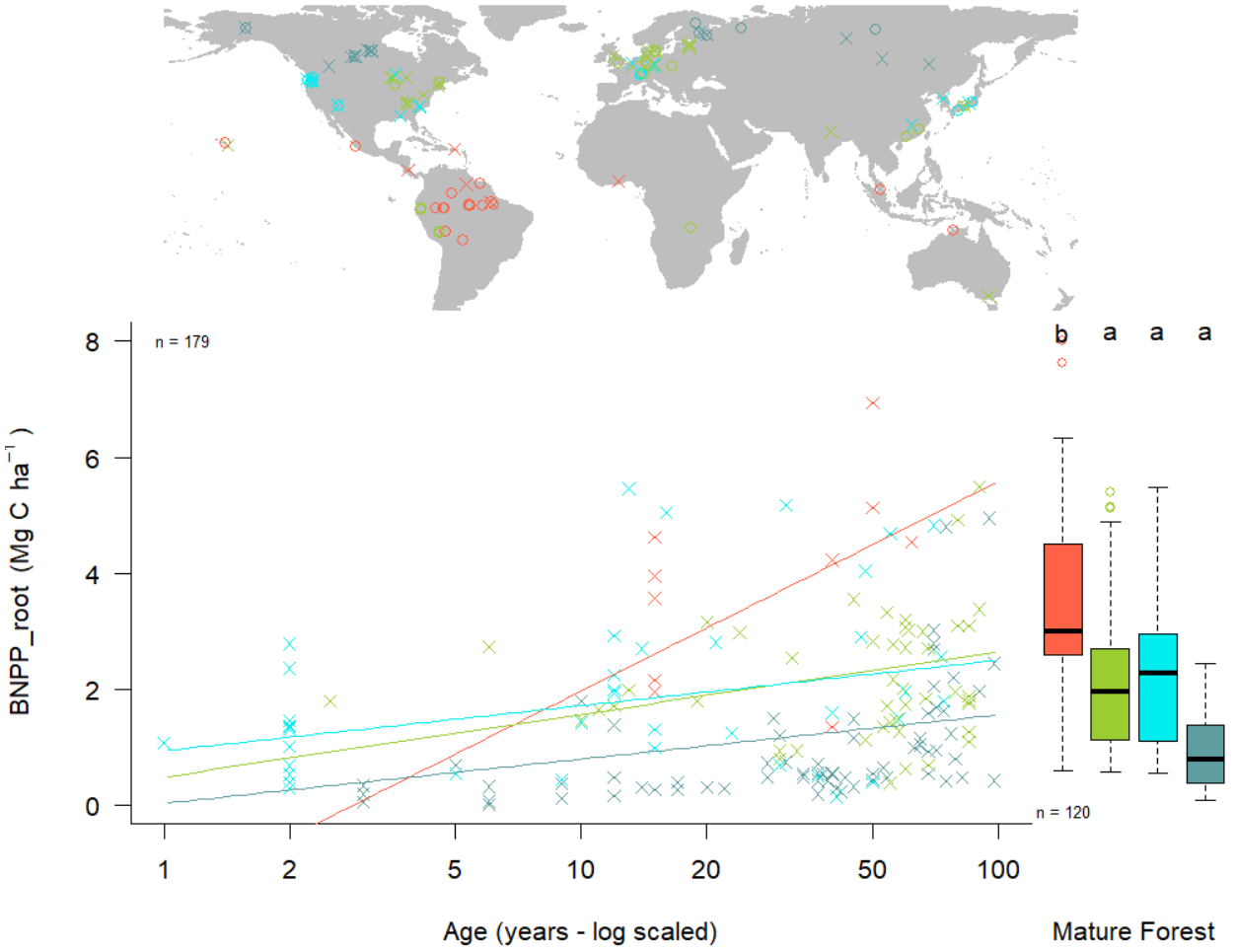

Figure S9 | Age trends and biome differences for $BNPP$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S10. Age trends and biome differences for $BNPP_{coarse}$

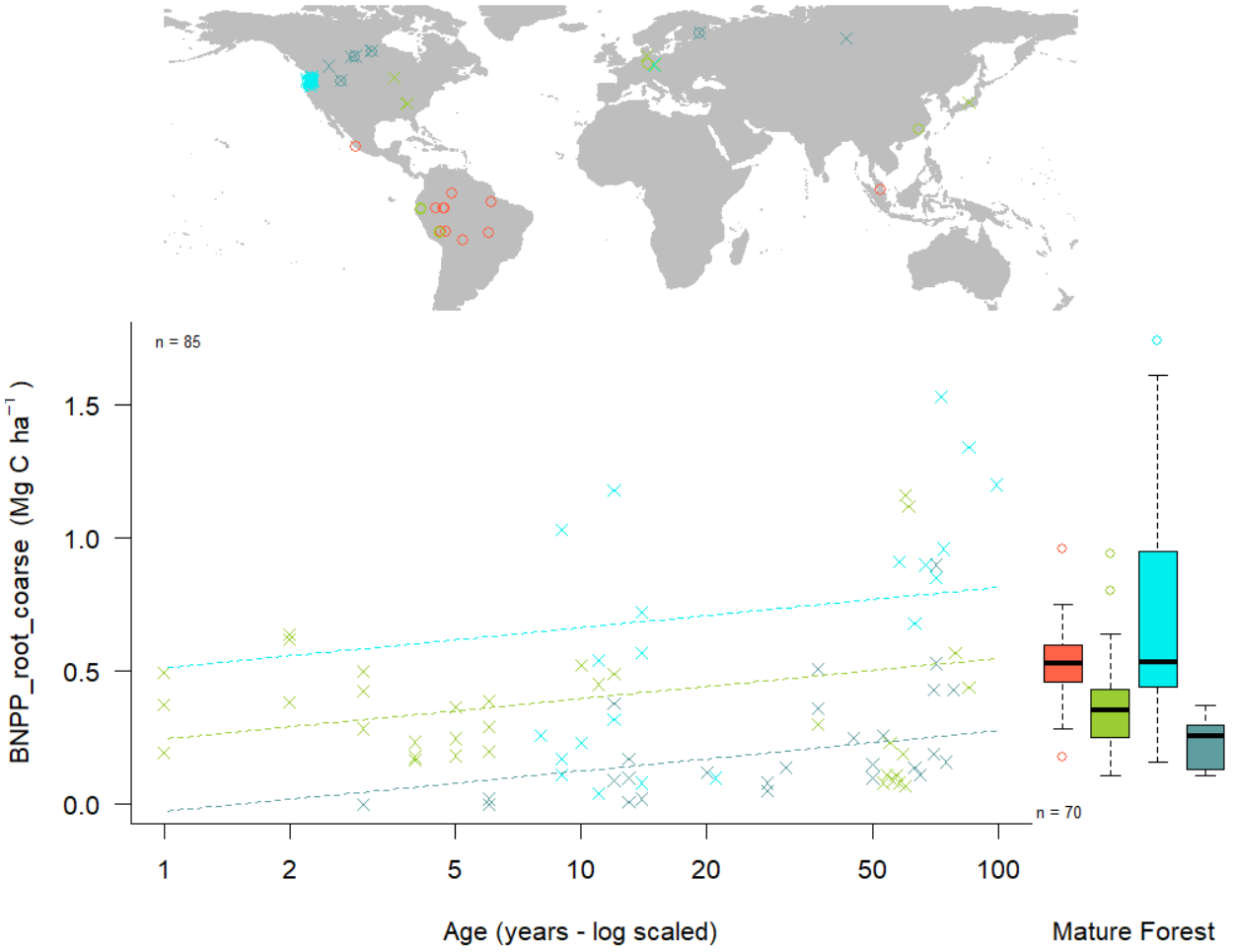

Figure S10 | Age trends and biome differences for $BNPP_{coarse}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S11. Age trends and biome differences for $BNPP_{fine}$

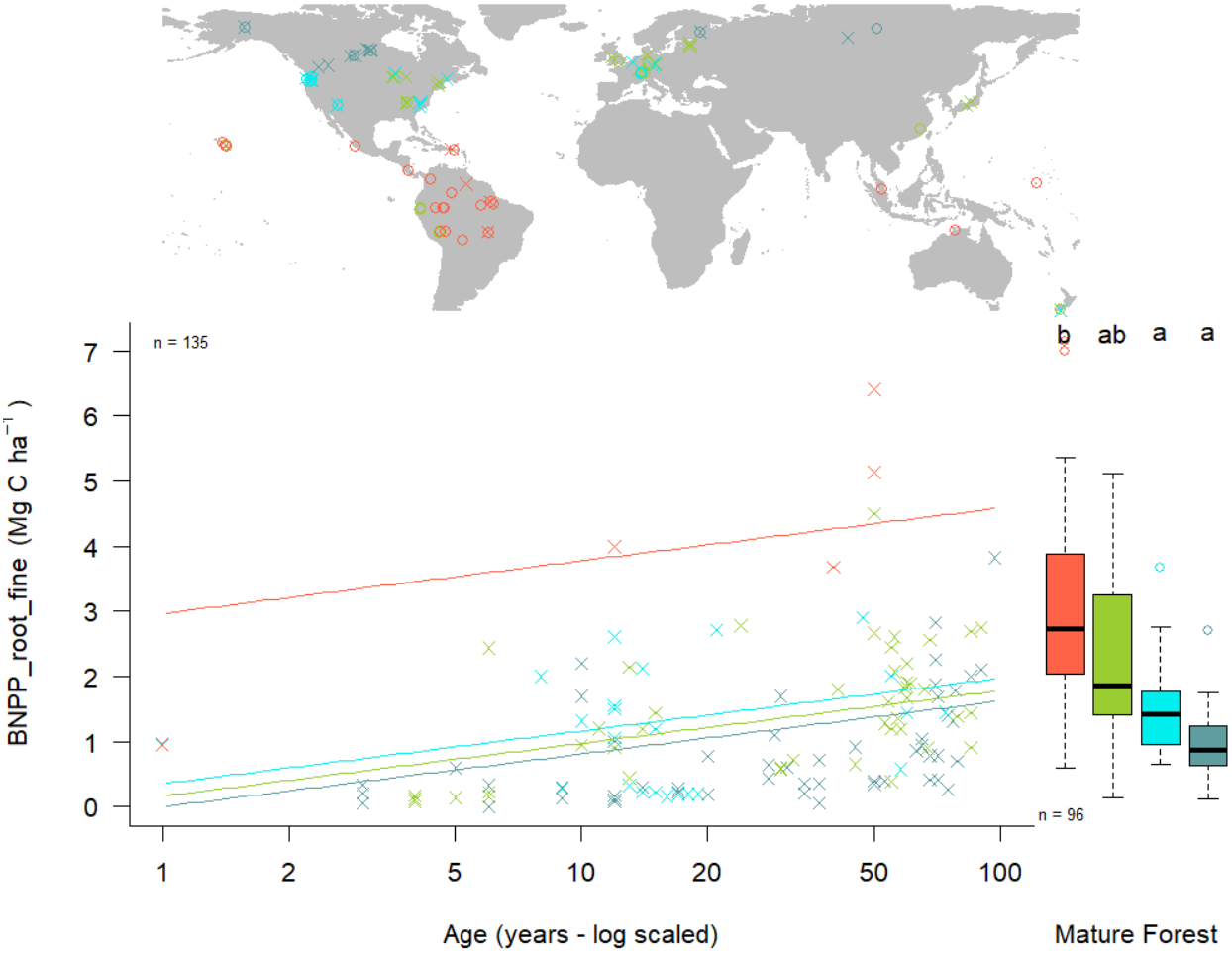

Figure S11 | Age trends and biome differences for $BNPP_{fine}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S12. Age trends and biome differences for R_{eco}

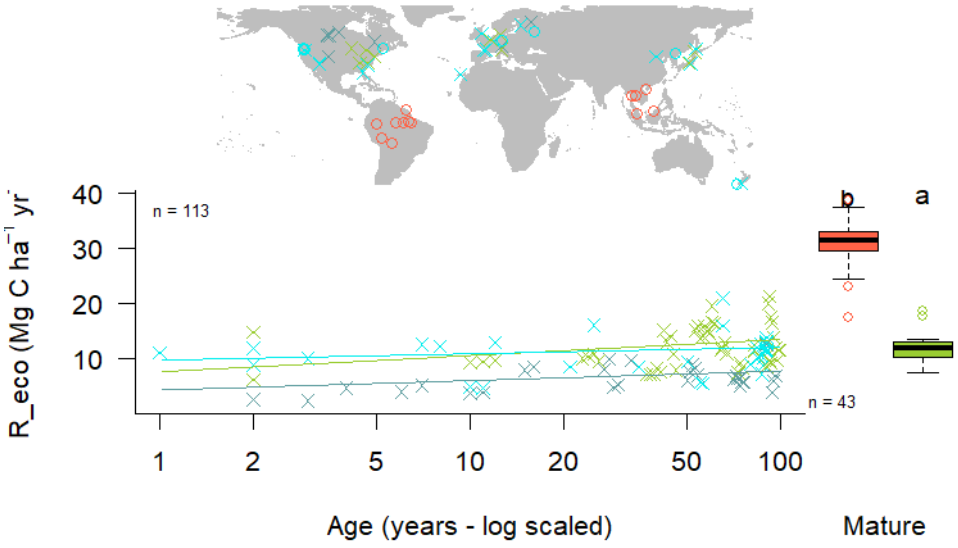

Figure S12 | Age trends and biome differences for R_{eco}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S13. Age trends and biome differences for R_{root}

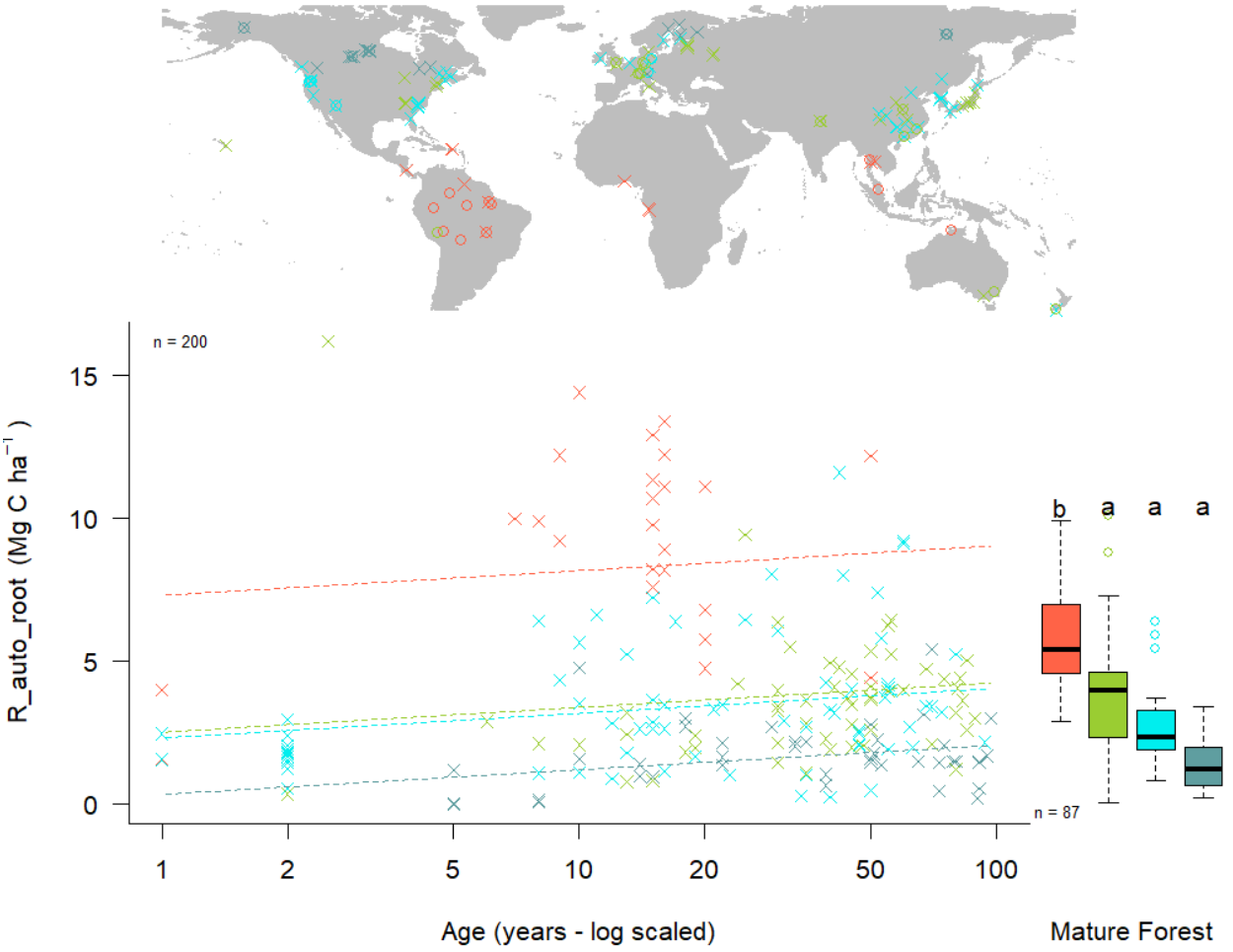

Figure S13 | Age trends and biome differences for R_{root}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S14. Age trends and biome differences for R_{soil}

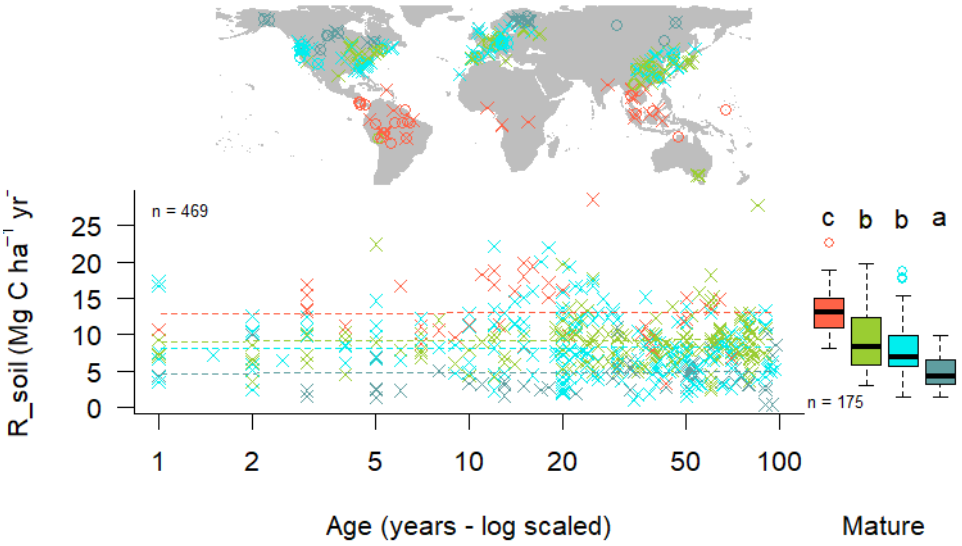

Figure S14 | Age trends and biome differences for R_{soil}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S15. Age trends and biome differences for $R_{het-soil}$

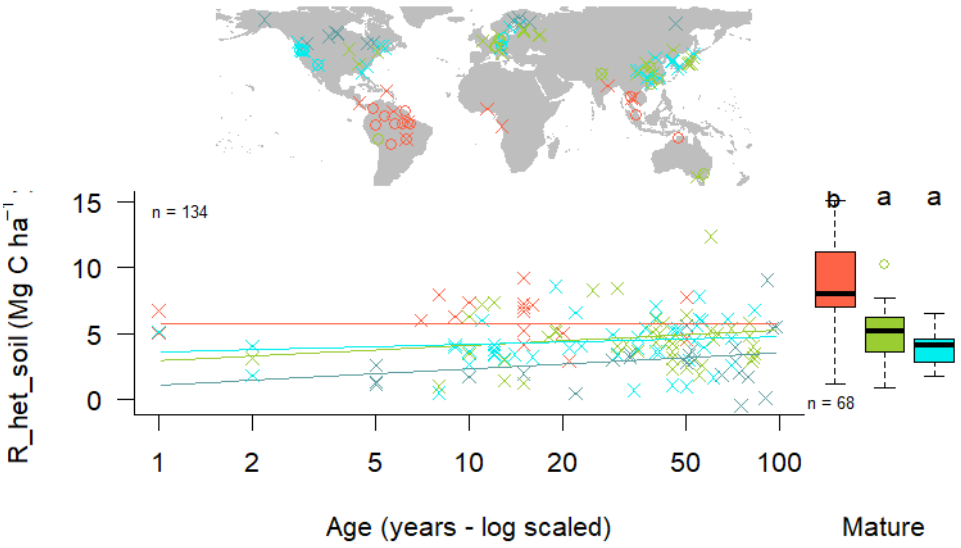

Figure S15 | Age trends and biome differences for $R_{het-soil}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S16. Age trends and biome differences for B_{tot}

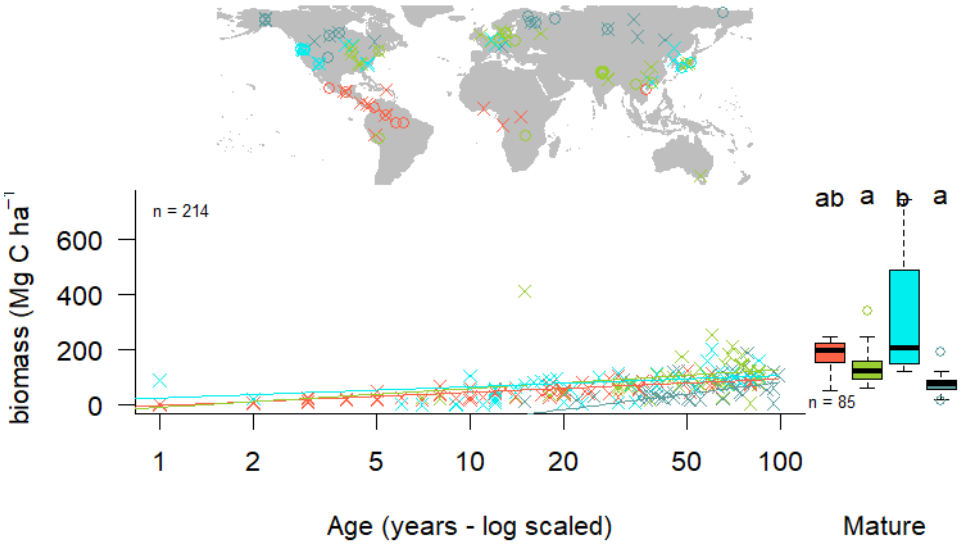

Figure S16 | Age trends and biome differences for B_{tot}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S17. Age trends and biome differences for B_{ag}

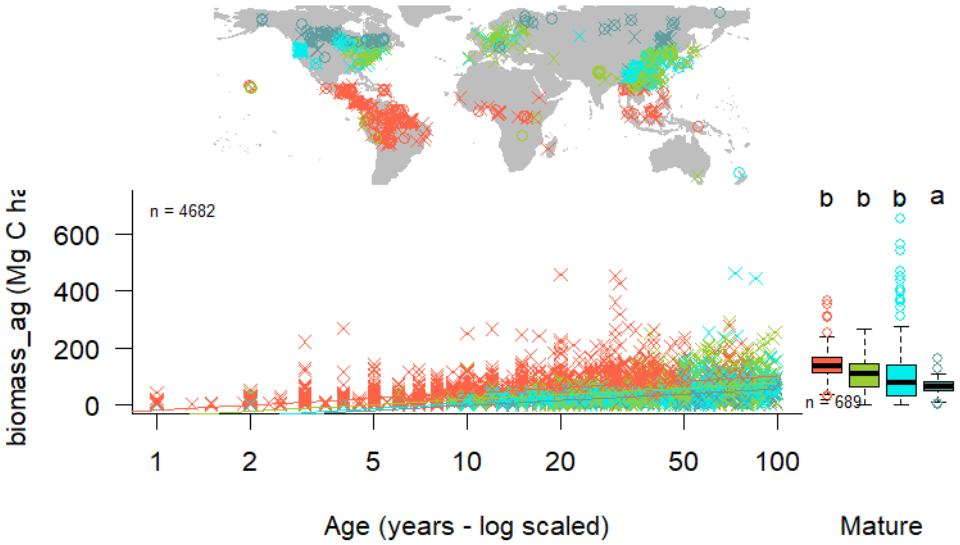

Figure S17 | Age trends and biome differences for B_{ag}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S18. Age trends and biome differences for $B_{ag-wood}$

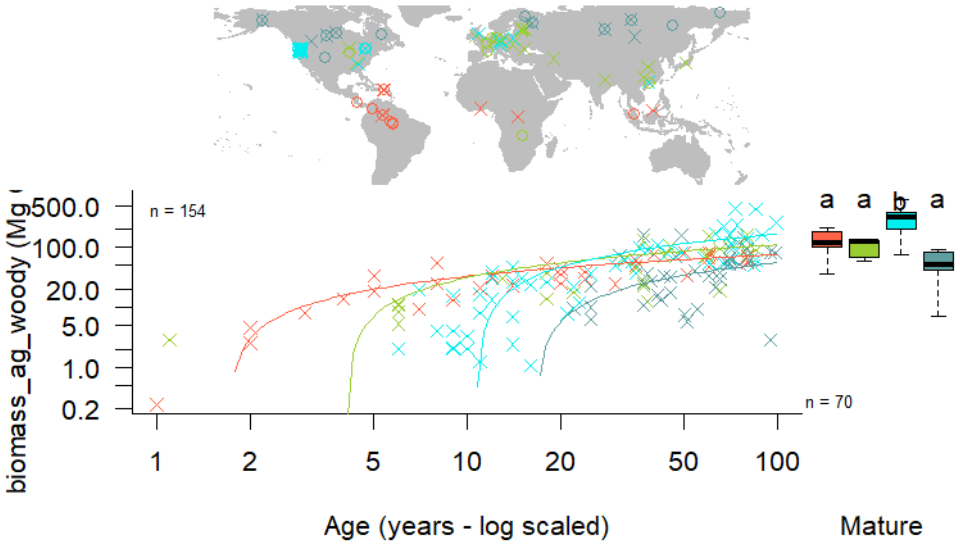

Figure S18 | Age trends and biome differences for $B_{ag-wood}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S19. Age trends and biome differences for $B_{foliage}$

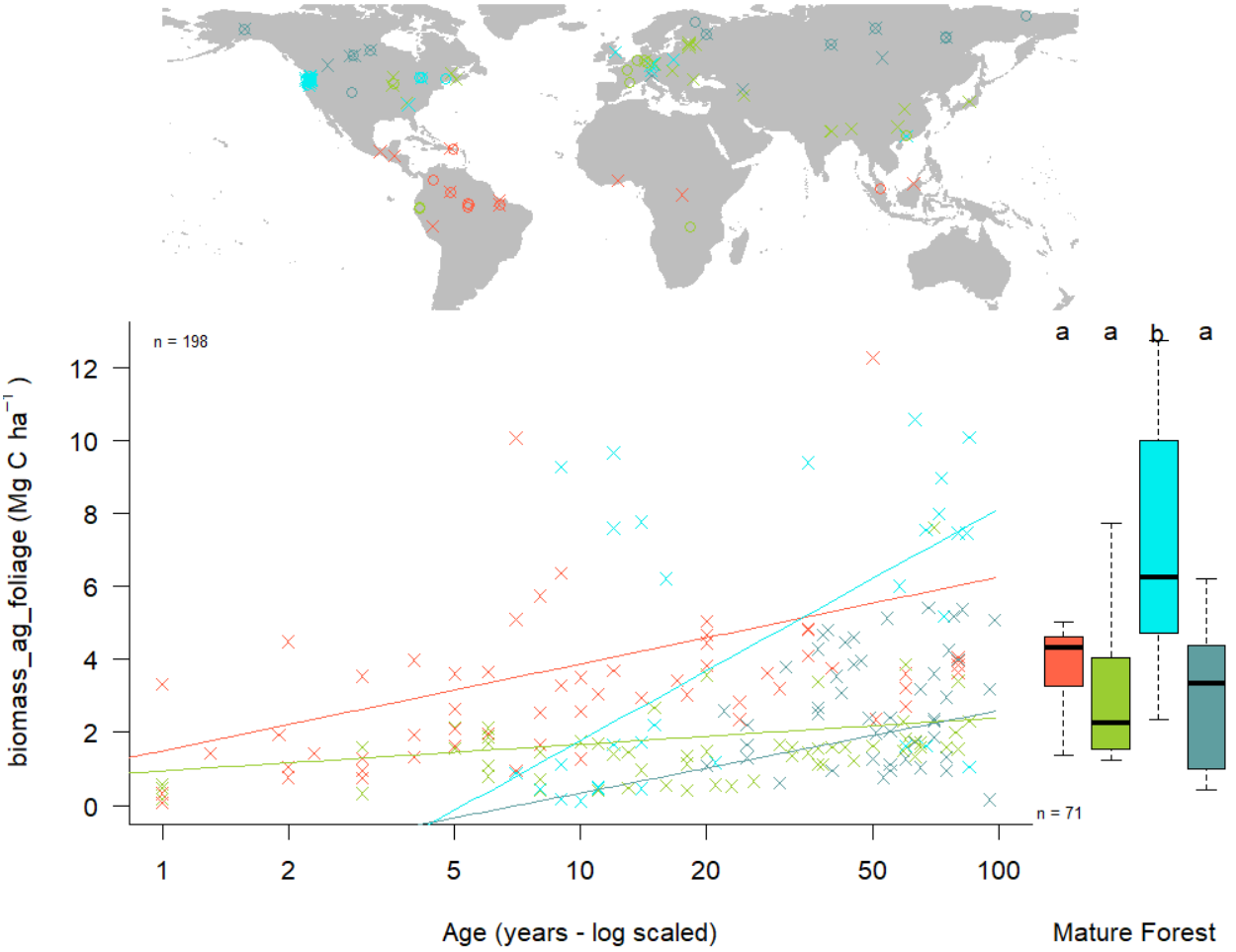

Figure S19 | Age trends and biome differences for $B_{foliage}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S20. Age trends and biome differences for B_{root}

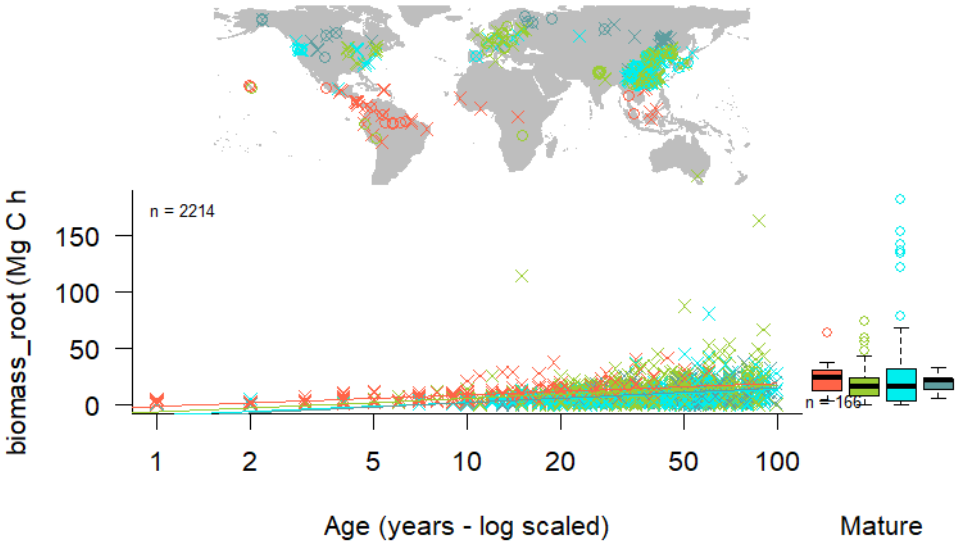

Figure S20 | Age trends and biome differences for B_{root}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S21. Age trends and biome differences for $B_{root-coarse}$

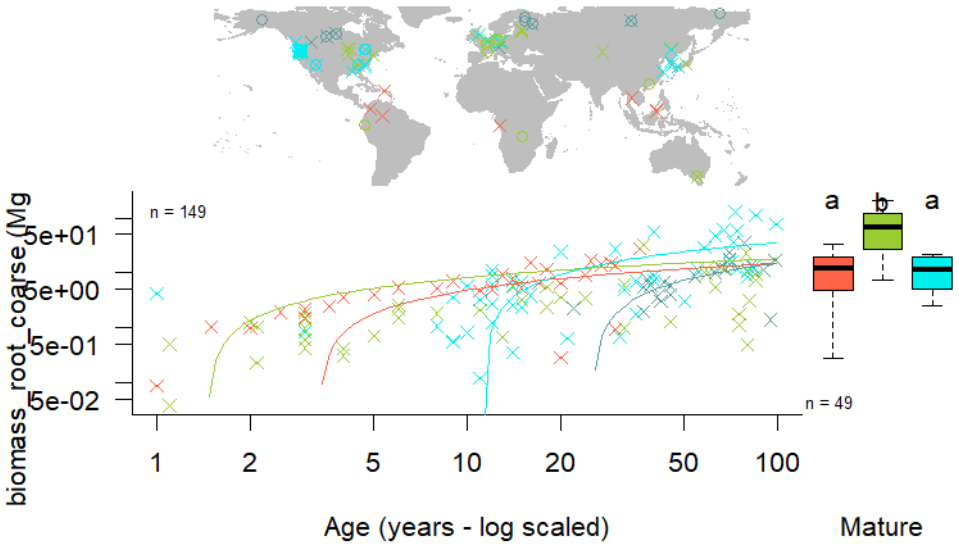

Figure S21 | Age trends and biome differences for $B_{root-coarse}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S22. Age trends and biome differences for $B_{root-fine}$

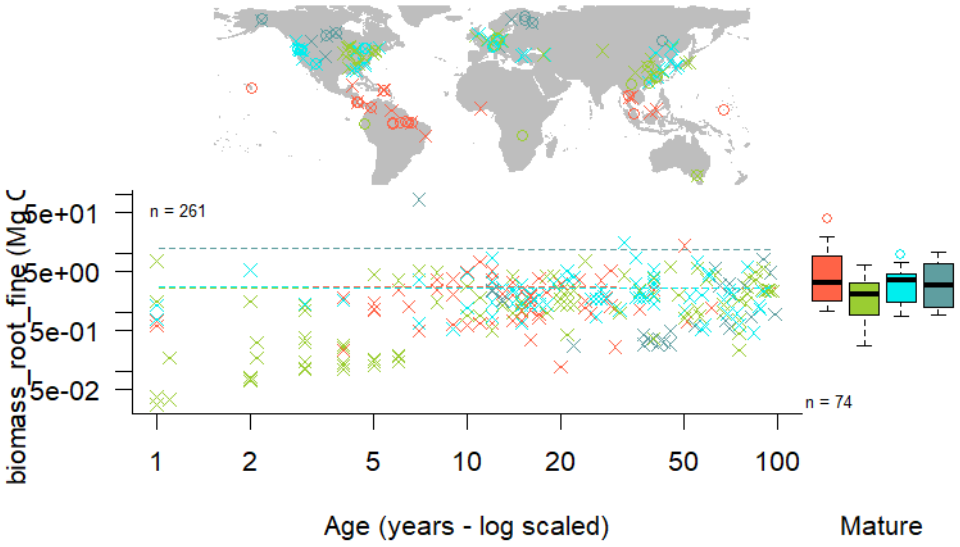

Figure S22 | Age trends and biome differences for $B_{root-fine}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S23. Age trends and biome differences for DW_{tot}

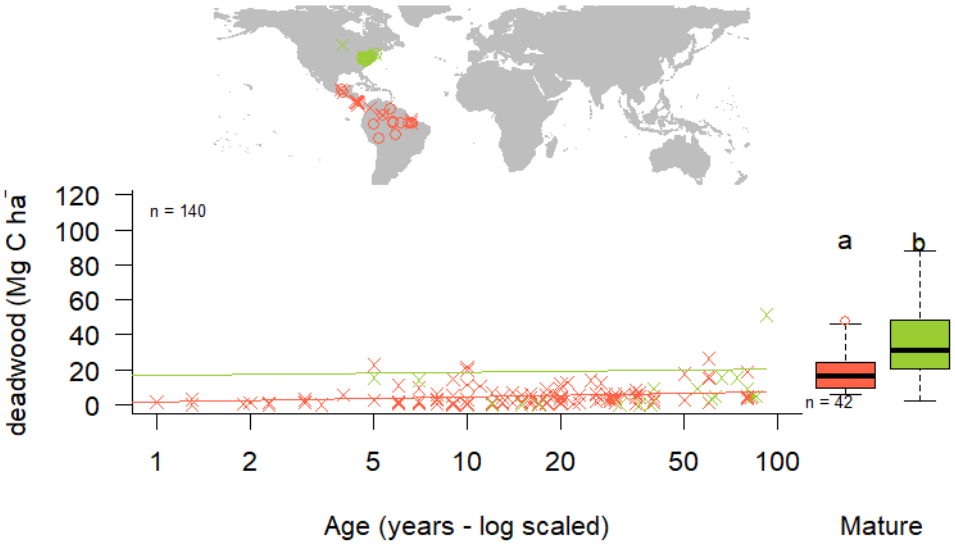

Figure S23 | Age trends and biome differences for DW_{tot}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S24. Age trends and biome differences for $DW_{standing}$

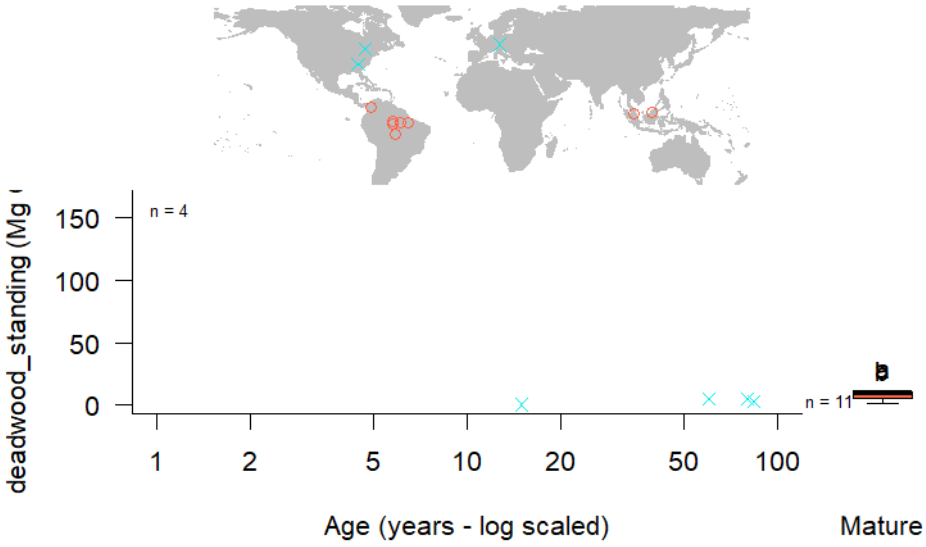

Figure S24 | Age trends and biome differences for $DW_{standing}$. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S25. Age trends and biome differences for DW_{down}

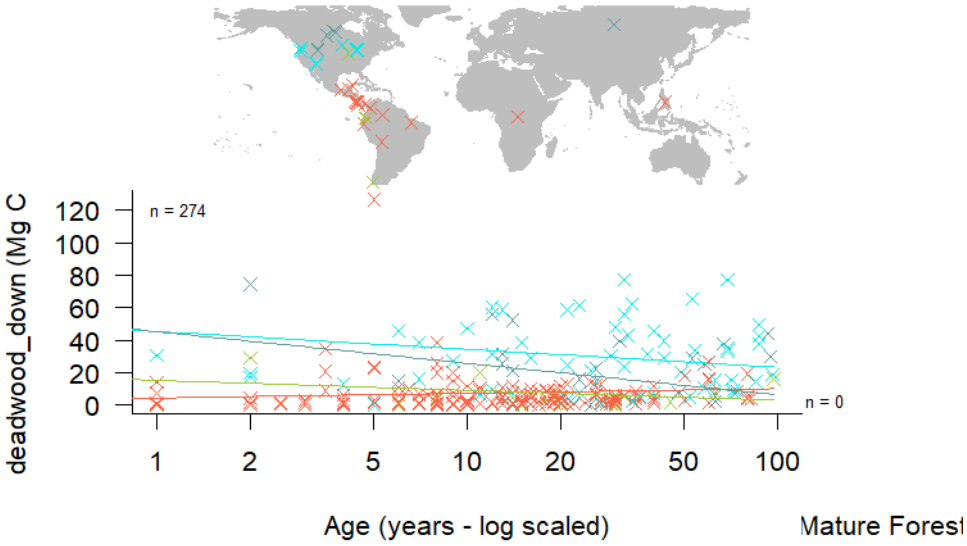

Figure S25 | Age trends and biome differences for DW_{down}. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.

Figure S26. Age trends and biome differences for OL

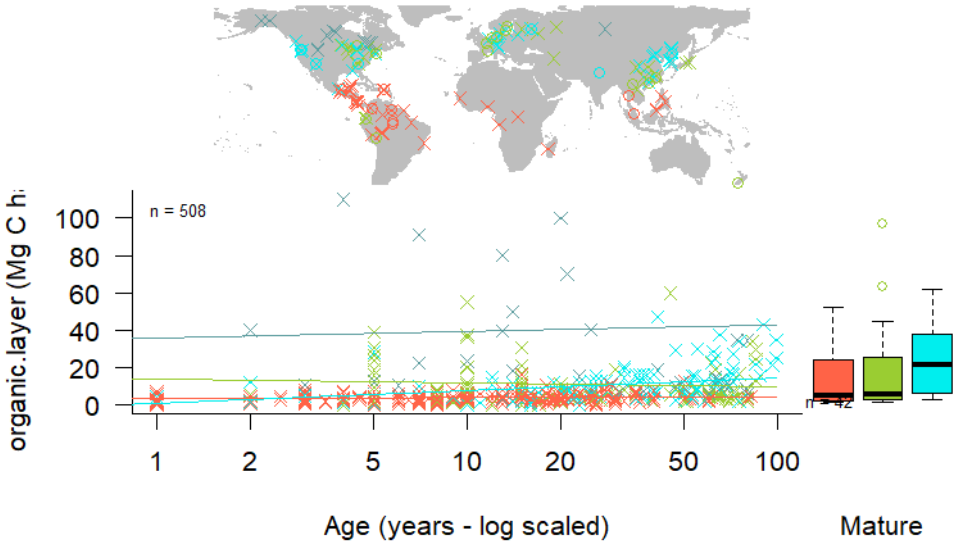

Figure S26 | Age trends and biome differences for OL. Map shows data sources (x and o indicate young and mature stands, respectively). Left plot shows age trends in forests up to 100 years old, as characterized by a linear mixed effects model with fixed effects of age and biome. Solid lines indicate signficant effect of age, non-pareallel lines indicate a significant age x biome interaction. Boxplot illustrates distribution across mature forests, with different letters indicating signifant differences between biomes.