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Electronic Supplementary Information

Lewis et al. Aboveground biomass and structure of 260 African tropical forests

This document comprises:

Methods further details

Data collection and processing: If multiple plots smaller than 0.2 ha occurred nearby and on the same soil type they were combined and treated as a single plot (in total forming 12 'plots' of the 260 for the analysis). Two plots were each split into two as they occurred on different soil types. For plots with two censuses we chose the second census as experience suggests that the second census is generally of greater accuracy than the first. For plots with more than two censuses we selected the penultimate census, again as this is likely to be the most error-free, as errors are often corrected in the next census. Species names in both the plot and wood density databases were standardised for synonymy using the African Flowering Plants Database (http://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php), and conform to the Angiosperm Phylogeny Groups' third release of plant families (AGPIII), to obtain the greatest number of matches when calculating aboveground biomass (1). Voucher numbers for stems in many plots are available from the respective PI's. In all plots tree diameter was measured at 1.3m along the stem from the ground, or away from stem deformities that occurred at 1.3m, or above buttresses.

The spatial distribution of plots is in Fig. 1. and shows limited sampling in the central Congo Basin, including the northern and southern fringes, and concentrations of plots in Gabon, SE Cameroon, Ghana and the Eastern Arc mountains of Tanzania. We defined our three major regions as follows: West African forest is defined as the region west of the Dahomey gap (sometimes called Upper Guinea), East African forests being all those east of the Congo Basin forests (plots in Uganda and

Tanzania in our dataset) and central African forests those of the Congo-Ogoueé Basin and contiguous forest (sometimes called lower Guinea), defined identically in (2).

Climate data: Worldclim is at 30' arc-minute resolution (~1km^2), hence for plots in six mountainous areas Worldclim altitude was sometimes poorly matched to *in situ* measured altitude. To correct those plots in the six mountainous regions where the height difference was >40m (i.e. 0.2°C) between the Worldclim and *in situ* (GPS) measures we applied a lapse rate to the WorldClim T_A using measured height (0.005°C m^{-1}, for saturated air; (3)). Thirteen plots were corrected by <1°C and four by >1°C. We then used regressions between MAT and other temperature-related variable to correct T_{MIN}, T_{MAX}, T_{WARMQ}, T_{COLQ}, and T_{CV}. As rainfall is poorly correlated with temperature over such small gradients we analysed the original rainfall-related variables for all plots.

Fragmentation: One visually obvious difference between central African forests and those of west and east Africa is that central Africa is not fragmented to the same extent as the other two regions. Thus, if regional differences are detected then this may be due to the impacts of edge or fragmentation effects (4). We therefore devised a standardised method to account for this using Google Earth Pro to measure the distance from the plot centre to (i) the nearest forest edge (clearing of >1 ha), giving a distance to edge (fragment edge in km, F_E), and (ii) the nearest edge of a clearing >1 ha in eight directions every 45° from North, from which we estimated fragment size by summing the areas of the eight triangles generated (fragment area in km^2; F_A). Imagery in Google Earth Pro differs across tropical Africa, but is often from Landsat 7, at 30m resolution. For 25 plots clouded precluded calculating F_E and F_A.

Statistical analysis: We first investigate the continuous variables, presenting Spearmans correlation coefficients, accounting for spatial autocorrelation. Essentially, if nearby plots are more similar, for example, having more similar temperature, then the true degrees of freedom is lower than the number of data points, as they are not truly independent. We calculate Spearman correlations then adjust the degrees of freedom using the Dutilleul method (5) to account for spatial autocorrelation. For variables we assume spatial autocorrelation dominates at short distances, and truncate distances used to correct for degrees of freedom at 3,000km to avoid long distance anti-correlation inflating degrees of freedom. For categorical soil variables we use ANOVA to assess their potential impacts on response variables.

We then take an information-theoretic approach, testing all possible combinations of the climate variables, the soil PC axis scores and the fragmentation variables, selecting the best model on the basis of the lowest Akaike's Information Criterion, corrected for finite sample sizes (AIC_C). Following initial model runs, the low AIC_C models were checked (i) for biological plausibility, and (ii) parameter redundancy, and the full suite of models was run again, minus these implausible and redundant terms. Given the wide variety of possible hypotheses relating forest AGB, BA, WMD_{BA} and stem density to the environmental variables, and the low AIC_C models the analysis produced we did not exclude any variable for violating biological plausibility. Parameter redundancy was based the parameters in the low AIC_C models, their importance values, and biological meaning, for example, including T_{CV}, or a combination of T_A, T_{MIN}, and T_{WARMQ}. If the latter were selected on importance values then removing redundancy amongst T_A, T_{MIN}, and T_{WARMQ} depended on the sign of the relationships; opposing signed relationships in differing parts of the year are retained as this is not redundant information, otherwise related terms were removed and the suite of models re-run again to obtain a final set of low AIC_C models.

AGB, BA and stems per hectare were all approximately normally distributed. WMD_{BA} was negatively skewed, so was reflected and square-root transformed prior to analysis, but we report WMD_{BA} and not transformed values. From the information theoretic analyses we exclude five non-terra firme plots from the swamps of the central Congo Basin from as they represent extreme outlier forest stands and soil types, plus 25 plots for which we did not have F_E or F_A data (due to cloud cover).

References

1. Angiosperm Phylogeny Group. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG III. Botanical Journal of the Linnean Society. 2009;161(2):105–21.
2. Feldpausch TR, Lloyd J, Lewis SL, Brienen RJW, Gloor M, Monteagudo Mendoza A, et al. Tree height integrated into pantropical forest biomass estimates. Biogeosciences. 2012;9(8):3381-403.
3. Barry R, Chorley R. Atmosphere, Weather, Climate London: Routledge; 1998.
4. Laurance WF. Theory meets reality: How habitat fragmentation research has transcended island biogeographic theory. Biological Conservation. 2008;141(7):1731-44.
5. Dutilleul P. Spatial heterogeneity and the design of ecological field experiments. Ecology. 1993;74(6):1646-58.

Tables

Table 1. Principal components analysis factor loading for the two soil axes used in the study. The first axis, PC1, explains 88.7% of the variation in the dataset and is related to sand fraction; the second axis, PC2, explains 10.0%, and is related to differentiating on clay and silt fractions.

Factor	PC1	PC2
sand % 0-30 cm	-0.99	-0.109
sand % 30-100 cm	-0.99	-0.109
silt % 0-30 cm	0.886	-0.445
silt % 30-100 cm	0.887	-0.443
clay % 0-30 cm	0.946	0.299
clay % 30-100 cm	0.944	0.306

Table 2. Spearman's rho for relationships between aboveground biomass and a range of climate, soil and fragmentation variables, with p-values given with and without adjustment of the degrees of freedom to account for spatial autocorrelation using the Dutillieul method. n=260, except have F_E or and F_A with n=235 plots, due to missing fragmentation data due to cloud cover.

(a) Aboveground Biomass

Variable	Spearman's rho	p value	p value adj	df adj
P_A	0.180	0.12	0.47	57
P_{MIN}	0.022	0.14	0.52	50
P_{WETQ}	-0.070	0.27	0.62	54
P_{CV}	**-0.153**	**<0.001**	**0.01**	**115**
T_A	-0.144	0.04	0.18	116
T_{MIN}	-0.098	0.27	0.16	412
T_{WARMQ}	-0.212	<0.001	0.09	55
T_{CV}	**-0.308**	**<0.001**	**0.01**	**43**
C:N	-0.023	0.10	0.21	149
∑B	**-0.32**	**<0.001**	**0.03**	**52**
PC1 sand	0.013	0.30	0.63	63
PC2 clay/silt	**0.285**	**<0.001**	**0.05**	**77**
F_E	0.088	0.34	0.60	69
F_A	0.170	0.67	0.82	68

(b) Basal Area

Variable	Spearman's rho	p value	p value adj	df adj
P_A	0.177	0.37	0.65	64
P_{MIN}	-0.065	0.84	0.92	71
P_{WETQ}	0.012	0.72	0.86	58
P_{CV}	-0.006	0.14	0.29	136
T_A	**-0.195**	**<0.001**	**0.01**	**147**
T_{MIN}	-0.156	0.004	0.11	81
T_{WARMQ}	**-0.217**	**<0.001**	**0.02**	**70**
T_{CV}	-0.084	0.04	0.27	72
C:N	-0.135	0.01	0.06	131
∑B	-0.246	<0.001	0.06	56
PC1 sand	0.099	0.48	0.72	68
PC2 clay/silt	0.280	0.01	0.08	119
F_E	0.040	0.75	0.84	88
F_A	0.104	0.24	0.47	89

(c) Basal Area-weighted Wood Mass Density

Variable	Spearman's rho	p value	p value adj	df adj
P_A	0.165	0.002	0.22	43

P_{MIN}	0.188	<0.001	0.13	49
P_{WETQ}	-0.030	0.50	0.76	53
P_{CV}	-0.203	0.001	0.20	41
T_A	0.159	0.007	0.21	57
T_{MIN}	0.168	0.007	0.25	49
T_{WARMQ}	0.111	0.17	0.51	60
T_{CV}	-0.329	<0.001	0.07	43
C:N	-0.080	0.002	0.06	96
∑B	0.030	0.08	0.14	180
PC1 sand	-0.159	<0.001	0.15	47
PC2 clay/silt	**0.073**	**<0.001**	**0.01**	**107**
F_E	0.010	0.61	0.75	92
F_A	0.053	0.05	0.23	86

(d) Stem density

Variable	Spearman's rho	p value	p value adj	df adj
P_A	0.170	0.02	0.32	52
P_{MIN}	0.031	0.93	0.97	69
P_{WETQ}	0.090	0.03	0.34	49
P_{CV}	0.053	0.92	0.96	68
T_A	-0.042	0.23	0.32	171
T_{MIN}	0.032	0.84	0.91	85
T_{WARMQ}	-0.046	0.39	0.48	172
T_{CV}	0.039	0.79	0.86	119
C:N	-0.063	0.97	0.98	124
∑B	-0.078	0.43	0.60	115
PC1 sand	0.013	0.43	0.59	120
PC2 clay/silt	0.064	0.44	0.57	142
F_E	-0.040	0.13	0.27	119
F_A	-0.148	0.05	0.24	86

FIGURES

Fig. 1 Precipitation (top) and temperature (bottom) against latitude, mean annual (P_A, T_A; left), driest/coolest quarter (P_{DRYQ}; T_{COLDQ}; centre), and wettest/warmest quarter (P_{WETQ}; T_{WARMQ}; right). Significant quadratic curves are, $P_{DRYQ} = 141 - 0.803 \times \text{Latitude}^2$ ($r^2 = 0.24$, p=0.006); $P_{WETQ} = 683 + 3.11 \times \text{Latitude}^2$ ($r^2 = 0.09$, $p<0.001$); T_{WARMQ}; $25.1 + 0.0329 \times \text{Latitude}^2$ ($r^2 = 0.07$, $p<0.001$).

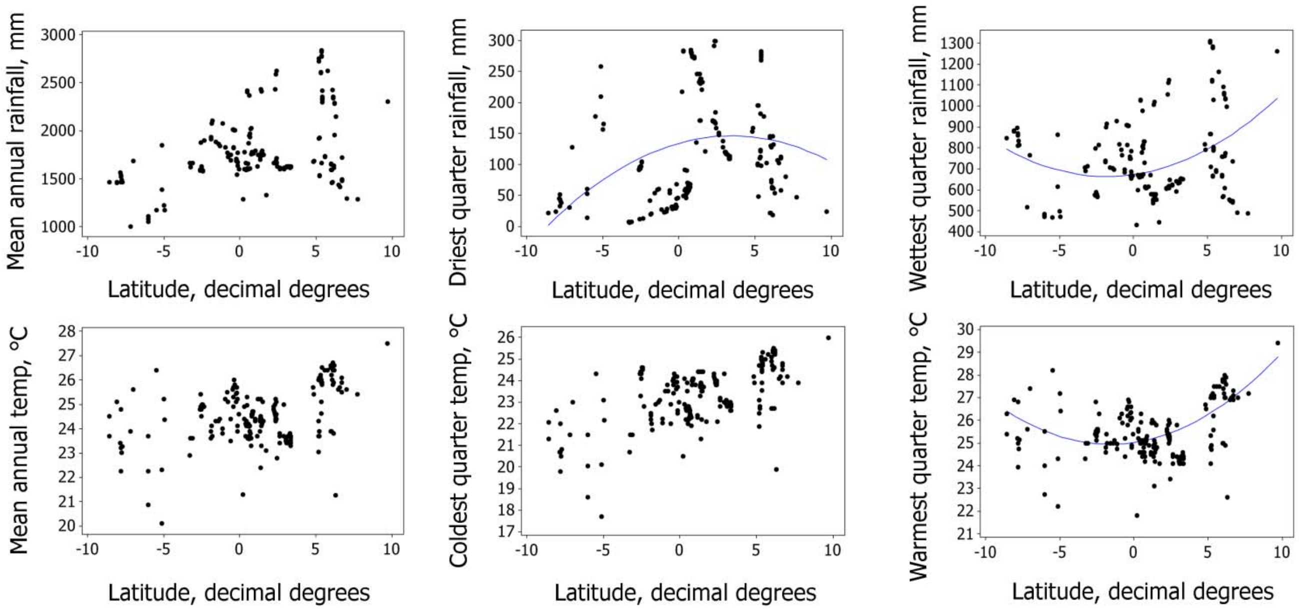


Fig. 2. Spatial autocorrelation of (a) AGB, (b) BA, (c) WMD_BA, (d) stem density, using Moran's I statistic.

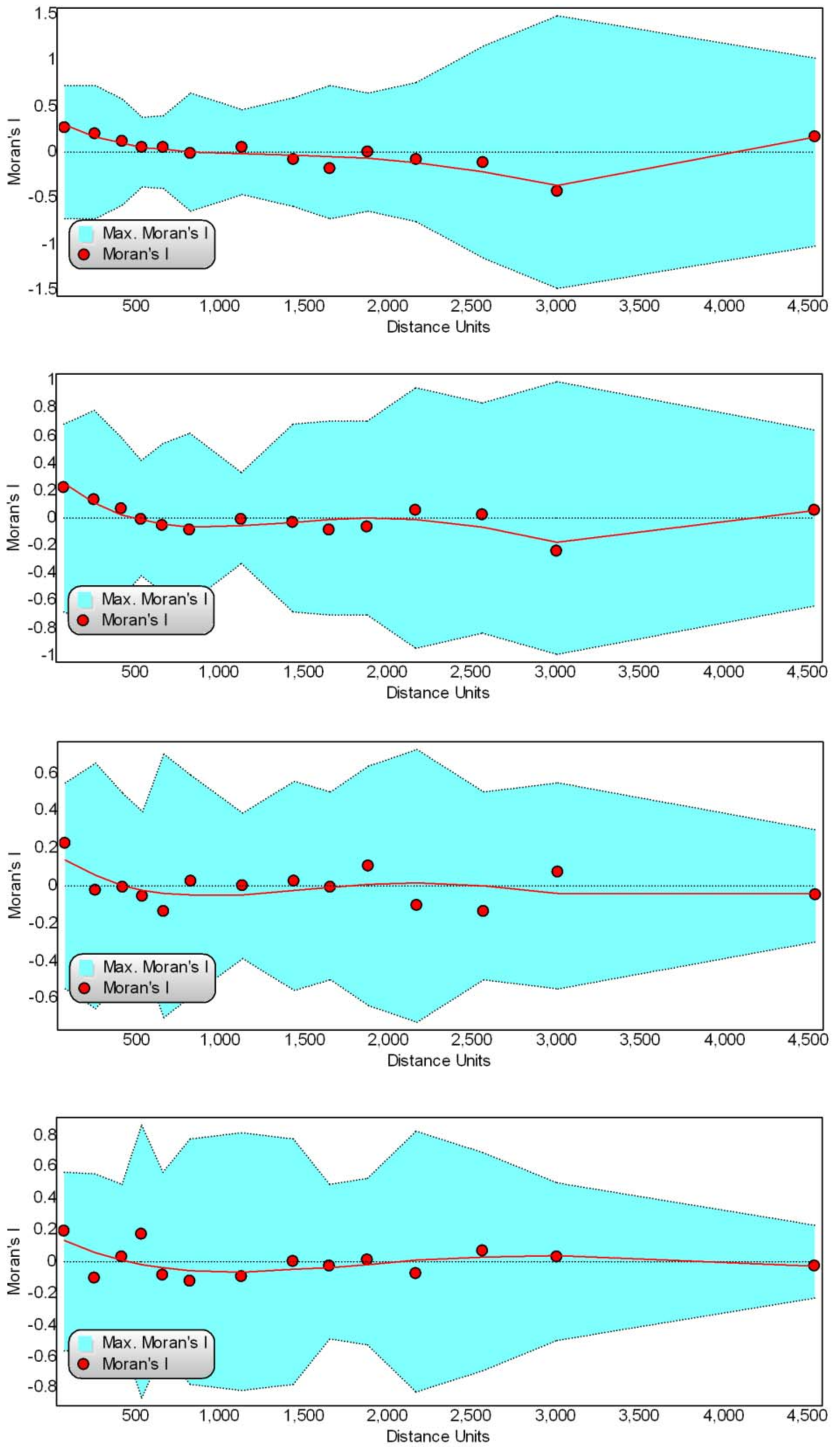


Fig. 3. Bivariate plots of BA and temperature (top; mean annual temperature, temperature coldest month, temperature in warmest quarter, temperature of coefficient variation, left to right), rainfall (middle; mean annual rainfall, rainfall in driest month, rainfall wettest quarter, rainfall coefficient of variation, left to right) and soil and fragmentation (bottom; PCA axis two, silt to clay texture, sum of bases in topsoil, carbon to nitrogen ratio in topsoil, distance to nearest forest edge and clearing, left to right). Regression lines indicate significant relationship after accounting for spatial autocorrelation.

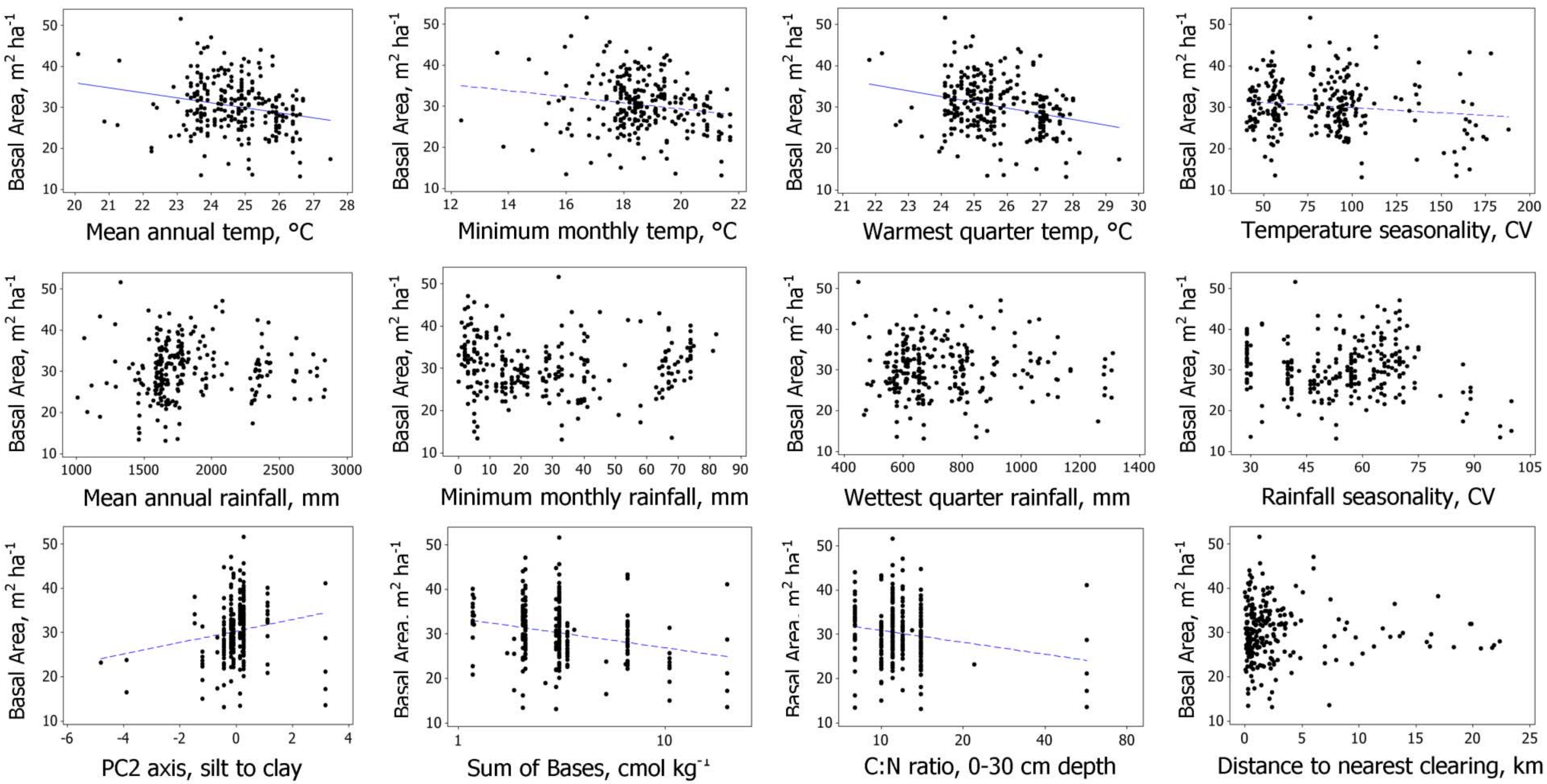


Fig. 4. Bivariate plots of Basal Area weighted Wood Mass Density (WMD_{BA}) and temperature (top; mean annual temperature, temperature coldest month, temperature in warmest quarter, temperature of coefficient variation, left to right), rainfall (middle; mean annual rainfall, rainfall in driest month, rainfall wettest quarter, rainfall coefficient of variation, left to right) and soil and fragmentation (bottom; PCA axis two, silt to clay texture, sum of bases in topsoil, carbon to nitrogen ratio in topsoil, distance to nearest forest edge and clearing, left to right). Regression lines indicate significant relationship after accounting for spatial autocorrelation.

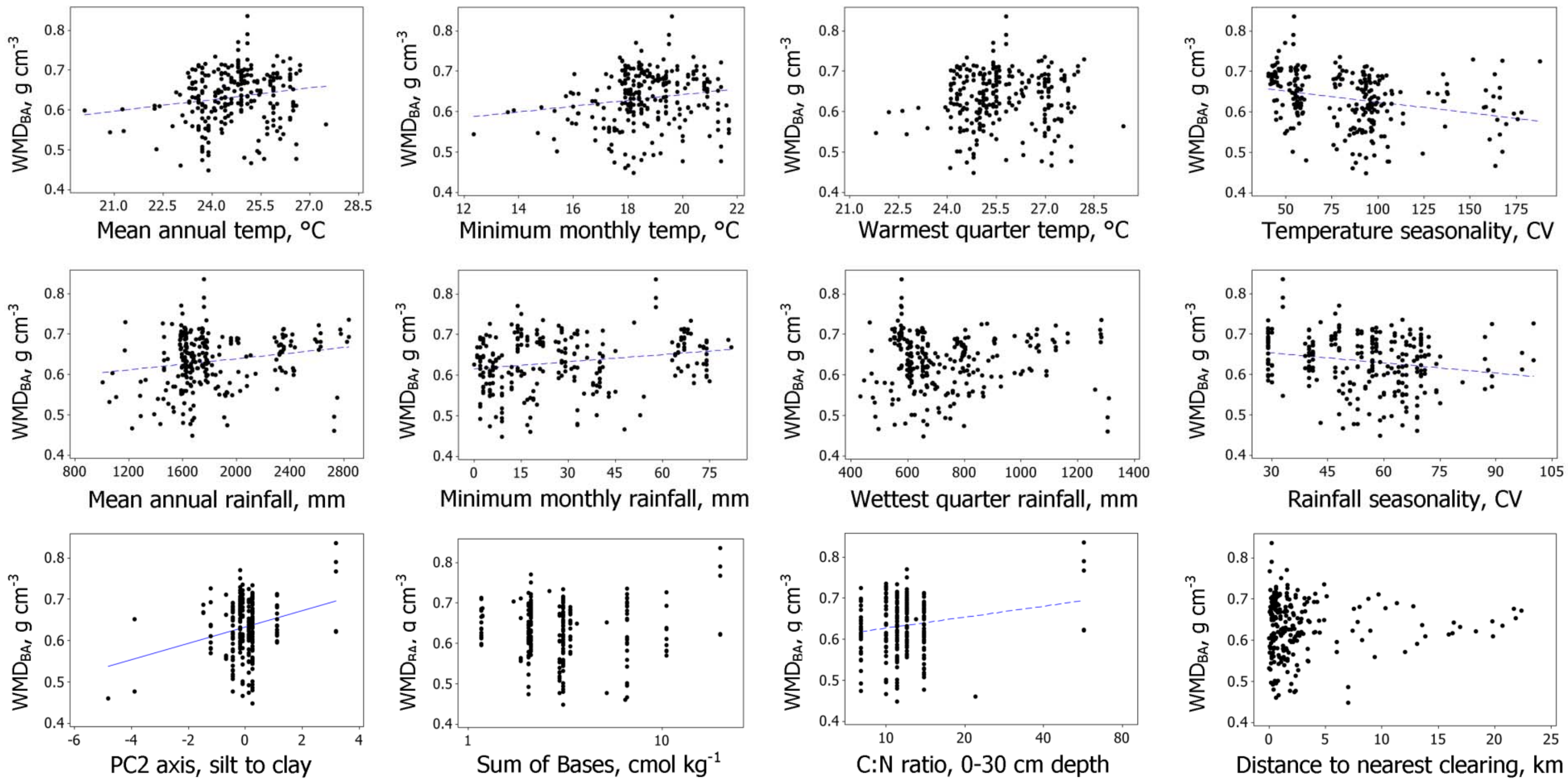


Fig. 5. Bivariate plots of stem density and temperature (top; mean annual temperature, temperature coldest month, temperature in warmest quarter, temperature of coefficient variation, left to right), rainfall (middle; mean annual rainfall, rainfall in driest month, rainfall wettest quarter, rainfall coefficient of variation, left to right) and soil and fragmentation (bottom; PCA axis two, silt to clay texture, sum of bases in topsoil, carbon to nitrogen ratio in topsoil, distance to nearest forest edge and clearing, left to right). Regression lines indicate significant relationship after accounting for spatial autocorrelation.

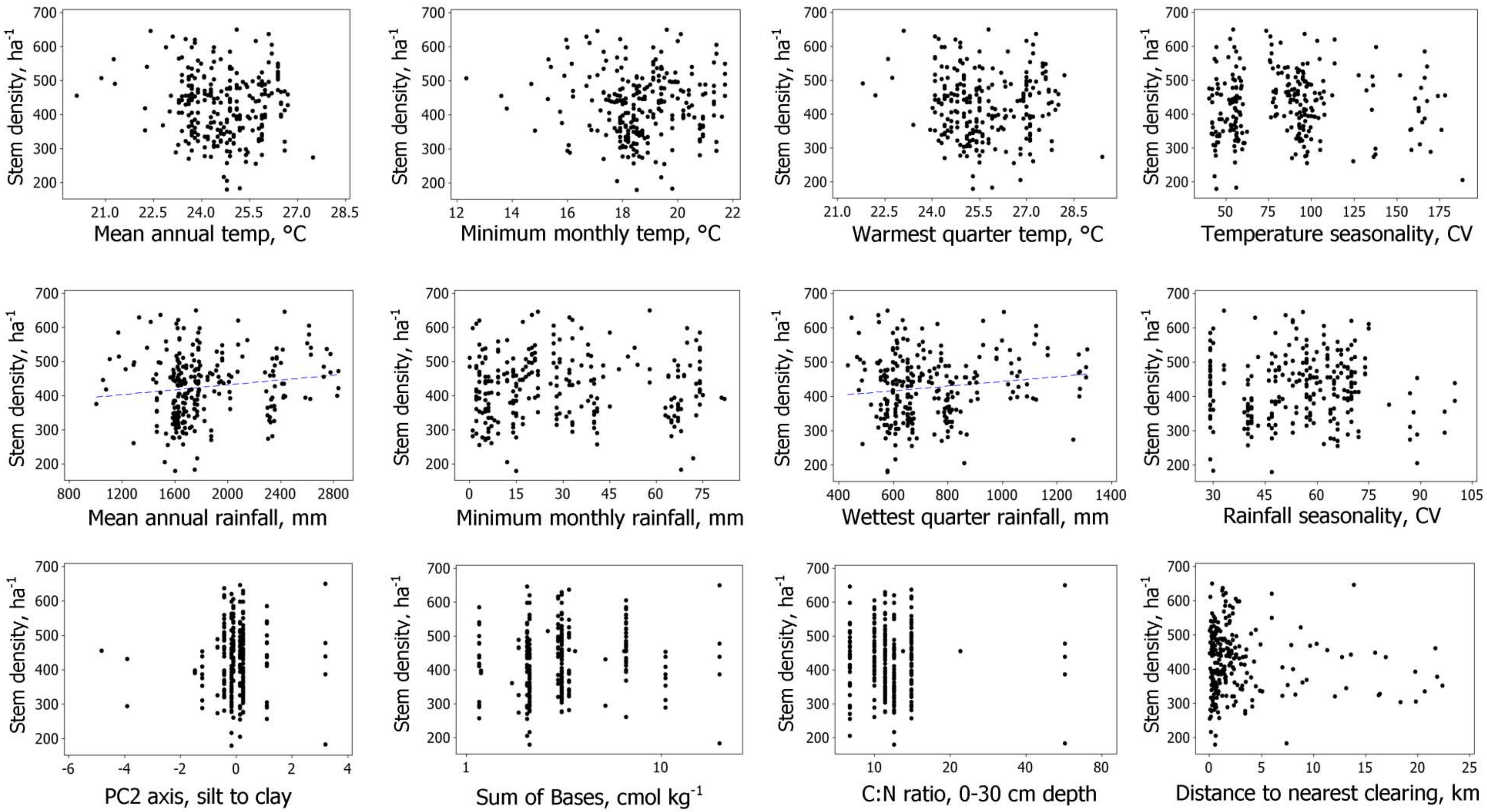


Fig. 6. Box-plots of aboveground biomass (top left), basal area (top right), basal area weighted wood mass density (WMD_{BA}; bottom right) and stem density (bottom right) grouped by soil class, for those with ≥5 plots per group. Bars that do not share a letter are significantly different using the Tukey Honest Significant Difference test.

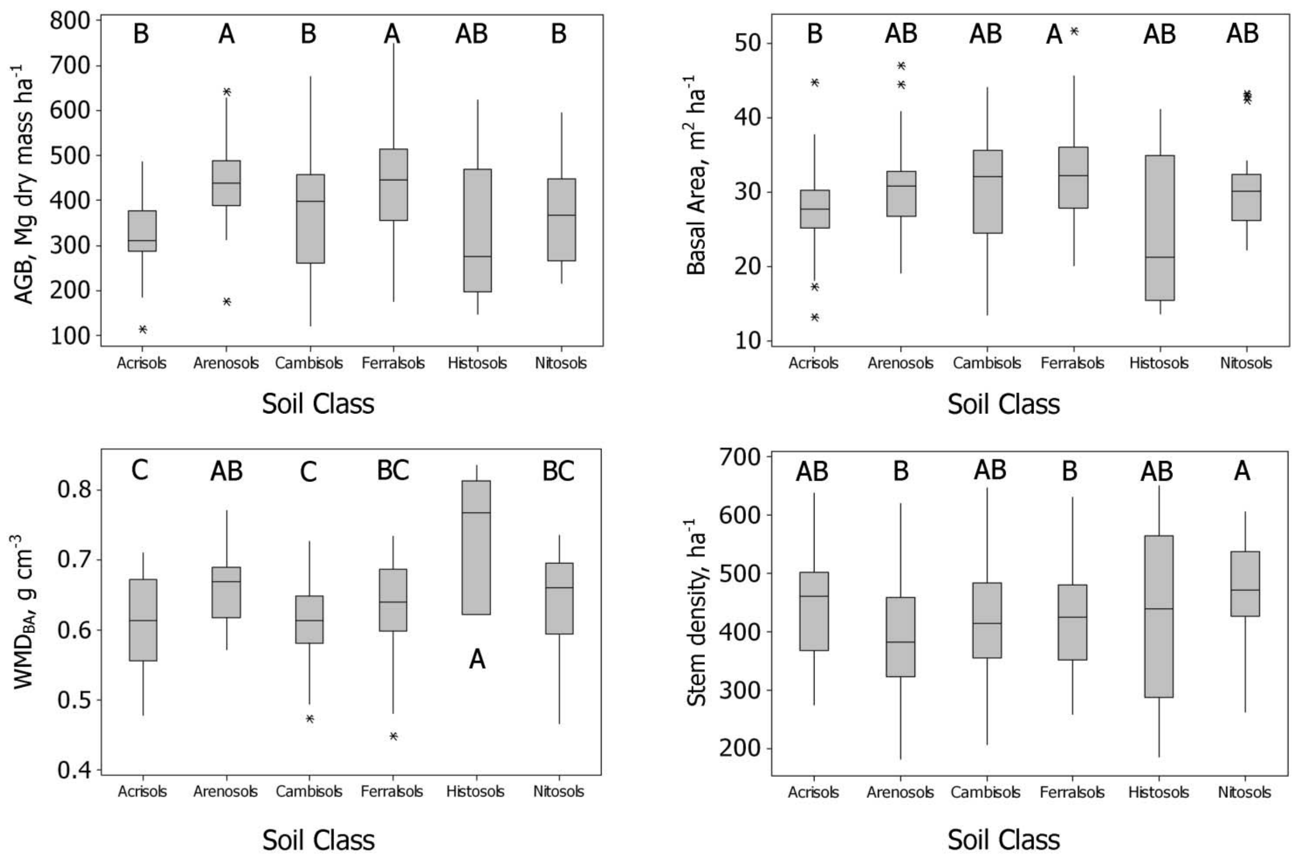


Fig. 7. Box-plots of aboveground biomass (top left), basal area (top right), basal area weighted wood mass density (WMD_{BA}; bottom right) and stem density (bottom right) grouped by soil type, for those with ≥5 plots per group. Bars that do not share a letter are significantly different using the Tukey Honest Significant Difference test.

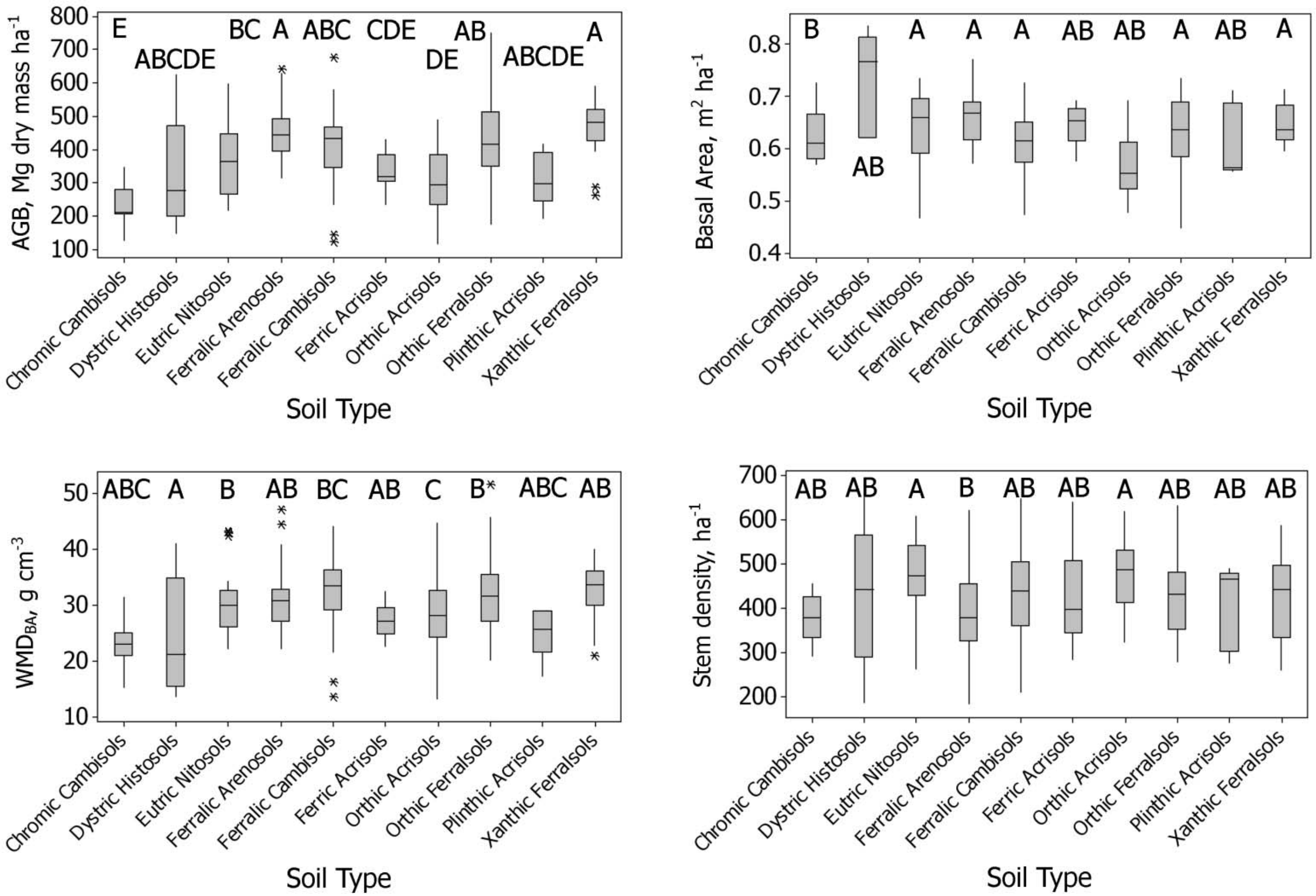
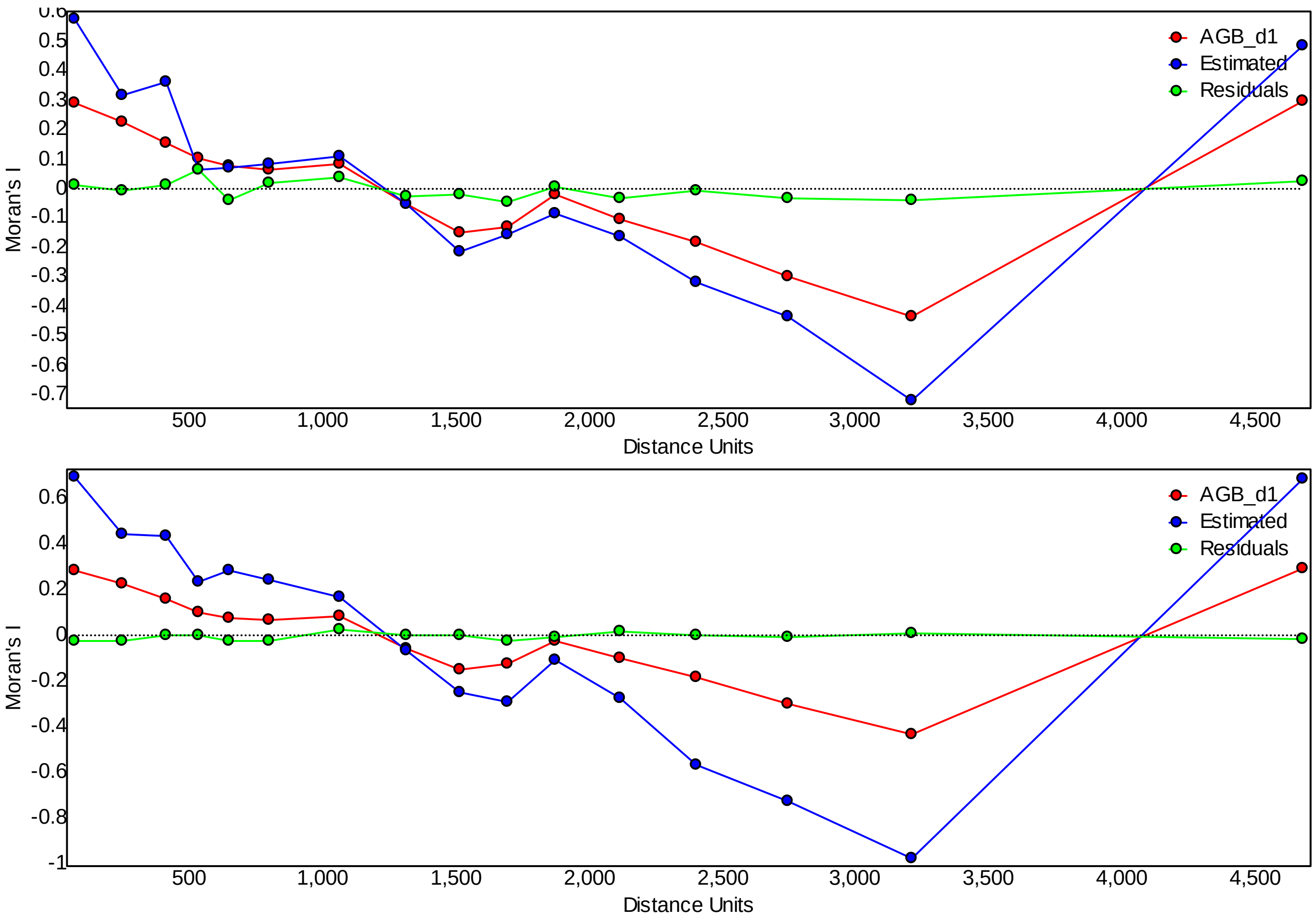


Fig. 8. OLS best AIC_C model spatial residuals for aboveground biomass (top) and after using SEVM spatial filters (bottom).



Data Table. Plot data used in the analysis. PI and team refer to the initials of the data owners for the plot census used. Each plot presented here represents a considerable investment of time and resources. If you use this data please inform the corresponding author, or PI's and team beforehand.

PlotCode	Countryname	PlotArea	Lat	Long	Alt	P_A	T_A	Edge_km	SoilType	AGB	BA	Trees_ha	WMD_BA	PI and team
ASN-02	GHANA	0.60	6.56	-2.22	242	1416	25.7	1.4	Orthic Acrisols	285.6	31.87	617	0.54	KA-B, SLL
ASN-04	GHANA	0.92	6.48	-2.17	221	1434	25.6	1.9	Orthic Acrisols	239.5	27.84	449	0.48	KA-B, SLL
BBR-14	GHANA	0.88	6.71	-1.29	245	1477	25.9	0.4	Orthic Acrisols	282.6	27.17	498	0.56	KA-B, SF, TRB, EF, TF, SLL
BBR-16	GHANA	0.92	6.70	-1.29	218	1489	26.1	1.3	Ferric Acrisols	263.5	26.77	638	0.58	KA-B, SF, TRB, EF, TF, SLL
BBR-17	GHANA	0.96	6.69	-1.28	226	1492	26.1	2.6	Orthic Acrisols	312.0	30.83	496	0.53	KA-B, SF, TRB, EF, TF, SLL
BFI-04	GHANA	0.50	7.71	-1.70	350	1287	25.4	0.2	Eutric Nitosols	364.0	32.34	262	0.50	TRF, GD, OLP, KA-B
BIL-01	GABON	2.50	0.30	11.92	482	1599	24.4	2.2	Orthic Ferralsols	418.1	31.73	321	0.60	J-LD
BIL-02	GABON	2.50	0.47	11.93	523	1606	24.1	18.4	Orthic Ferralsols	360.2	26.68	305	0.62	J-LD
BIL-03	GABON	2.50	0.57	12.17	498	1596	24.2	16.4	Orthic Ferralsols	414.6	29.60	328	0.64	J-LD
BIL-04	GABON	2.50	0.67	11.92	513	1604	24.1	20.7	Orthic Ferralsols	354.9	26.39	336	0.64	J-LD
BIS-01	CAMEROON	1.00	3.30	12.48	643	1619	23.8	0.7	Orthic Ferralsols	432.5	28.42	349	0.69	M-NK, BS, LZ, SLL
BIS-02	CAMEROON	1.00	3.29	12.48	646	1621	23.8	0.3	Orthic Ferralsols	343.7	28.24	508	0.61	M-NK, BS, LZ, SLL
BIS-03	CAMEROON	1.00	3.22	12.49	666	1627	23.7	0.2	Orthic Ferralsols	446.5	28.54	339	0.69	M-NK, BS, LZ, SLL
BIS-04	CAMEROON	1.00	3.21	12.50	661	1628	23.7	1.0	Orthic Ferralsols	349.8	27.56	449	0.62	M-NK, BS, LZ, SLL

BIS-05	CAMEROON	1.00	3.31	12.49	648	1617	23.8	0.6	Orthic Ferralsols	607.4	35.15	332	0.72	M-NK, BS, LZ, SLL
BIS-06	CAMEROON	1.00	3.31	12.49	648	1617	23.8	0.3	Orthic Ferralsols	408.4	29.76	455	0.66	M-NK, BS, LZ, SLL
BOK-01	CONGO, People's Republic of	1.00	1.49	17.44	335	1759	25.1	0.1	Dystric Histosols	274.6	21.17	478	0.77	SLL, BS, SKB
BOK-02	CONGO, People's Republic of	0.40	1.49	17.44	335	1759	25.1	0.3	Dystric Histosols	248.4	17.30	440	0.79	SLL, BS, SKB
BOK-03	CONGO, People's Republic of	0.40	1.48	17.43	333	1759	25.1	0.3	Dystric Histosols	624.0	41.07	650	0.84	SLL, BS, SKB
BOR-05	GHANA	1.00	5.35	-1.83	99	1660	25.9	1.3	Ferric Acrisols	232.6	22.58	399	0.58	KA-B, SF, TRB, EF, TF, SLL
BOR-06	GHANA	1.00	5.35	-1.84	98	1660	25.9	2.3	Orthic Acrisols	225.4	21.85	485	0.61	KA-B, SF, TRB, EF, TF, SLL
BUD-17	UGANDA	1.86	1.72	31.50	1062	1326	23.1	1.3	Orthic Ferralsols	603.9	51.66	631	0.59	DS
CAM-01	CAMEROON	1.00	2.36	9.93	62	2588	25.2	0.6	Plinthic Ferralsols	514.1	34.15	395	0.69	TS, SLL, BS, SKB
CAM-02	CAMEROON	1.00	2.31	9.92	56	2434	25.0	0.8	Plinthic Ferralsols	483.3	32.11	399	0.67	TS, SLL, BS, SKB
CAM-03	CAMEROON	1.00	2.42	9.90	84	2625	25.1	0.2	Plinthic Ferralsols	578.6	38.05	392	0.67	TS, SLL, BS, SKB
CAP-09	GHANA	1.00	4.85	-2.04	120	1686	25.4	1.5	Orthic Acrisols	405.7	33.38	489	0.67	KA-B, SLL
CAP-10	GHANA	1.00	4.80	-2.05	78	1678	25.7	1.1	Orthic Acrisols	199.2	21.99	439	0.56	KA-B, SLL
CEB-03	GABON	1.00	- 0.15	13.05	505	1674	23.9	7.0	Orthic Ferralsols	205.4	23.13	406	0.49	J-LD
CEB-04	GABON	1.00	- 0.15	13.05	505	1674	23.9	7.0	Orthic Ferralsols	244.1	26.89	323	0.45	J-LD
CVL-01	LIBERIA	1.00	6.19	-8.18	264	1958	26.4	0.7	Ferric Acrisols	311.5	26.54	510	0.68	HW, SLL

CVL-08	LIBERIA	1.00	6.19	-8.18	264	1958	26.4	0.5	Ferric Acrisols	295.7	26.03	549	0.68	HW, SLL
CVL-10	LIBERIA	1.00	6.19	-8.18	264	1958	26.4	0.4	Ferric Acrisols	381.2	29.50	527	0.68	HW, SLL
CVL-11	LIBERIA	1.00	6.19	-8.18	264	1958	26.4	0.6	Ferric Acrisols	357.2	28.35	504	0.69	HW, SLL
DAD-31	GHANA	0.56	5.97	-3.03	147	1658	26.6	2.4	Dystric Gleysols	146.7	16.51	295	0.48	KA-B, SLL
DAD-32	GHANA	0.44	5.97	-3.03	147	1658	26.6	2.4	Orthic Acrisols	114.2	13.23	320	0.51	KA-B, SLL
DAD-41	GHANA	0.28	5.99	-3.03	157	1648	26.5	2.8	Dystric Gleysols	311.5	23.83	432	0.65	KA-B, SLL
DAD-42	GHANA	0.72	5.99	-3.03	157	1648	26.5	2.8	Orthic Acrisols	354.9	28.02	467	0.62	KA-B, SLL
DJA-01	CAMEROON	2.25	3.33	12.87	694	1631	23.3	NA	Orthic Ferralsols	413.8	33.07	564	0.62	BS, SLL
DJA-02	CAMEROON	2.50	3.32	12.87	681	1630	23.4	NA	Orthic Ferralsols	275.1	21.76	406	0.63	BS, SLL
DJA-03	CAMEROON	2.50	3.30	12.87	680	1630	23.4	NA	Orthic Ferralsols	460.1	32.42	498	0.67	BS, SLL
DJA-04	CAMEROON	2.50	3.33	12.87	694	1631	23.3	NA	Orthic Ferralsols	396.9	28.20	406	0.66	BS, SLL
DJA-05	CAMEROON	1.00	3.15	12.57	658	1628	23.7	NA	Orthic Ferralsols	376.1	30.33	477	0.60	BS, SLL
DJA-07	CAMEROON	0.50	2.89	13.34	573	1617	23.7	2.7	Orthic Ferralsols	344.5	28.39	598	0.64	BS, SLL
DJA-09	CAMEROON	1.00	3.08	13.58	631	1631	23.4	1.4	Orthic Ferralsols	496.5	35.96	569	0.67	BS, SLL
DJA-17	CAMEROON	0.20	2.88	13.34	573	1617	23.7	1.6	Orthic Ferralsols	749.1	43.40	370	0.71	BS, SLL
DJK-01	CAMEROON	1.00	3.33	12.72	668	1623	23.6	NA	Orthic Ferralsols	536.2	31.63	316	0.71	SLL, BS, KS-HP, HT
DJK-02	CAMEROON	1.00	3.33	12.72	660	1622	23.6	NA	Orthic Ferralsols	357.4	26.81	398	0.64	SLL, BS, KS-HP, HT
DJK-03	CAMEROON	1.00	3.36	12.72	647	1621	23.7	NA	Orthic Ferralsols	540.7	32.35	346	0.71	SLL, BS, KS-HP, HT

DJK-04	CAMEROON	1.00	3.36	12.73	639	1619	23.7	NA	Orthic Ferralsols	289.5	24.80	484	0.60	SLL, BS, KS-HP, HT
DJK-05	CAMEROON	1.00	3.32	12.76	651	1623	23.6	NA	Orthic Ferralsols	551.4	33.81	366	0.71	SLL, BS, KS-HP, HT
DJK-06	CAMEROON	1.00	3.33	12.76	663	1623	23.5	NA	Orthic Ferralsols	297.6	23.46	430	0.63	SLL, BS, KS-HP, HT
DJL-01	CAMEROON	1.00	3.12	13.58	622	1631	23.4	3.2	Orthic Ferralsols	578.0	35.17	352	0.70	BS, M-NK, SLL, LZ
DJL-02	CAMEROON	1.00	3.12	13.59	616	1631	23.4	2.5	Orthic Ferralsols	405.4	29.24	443	0.65	BS, M-NK, SLL, LZ
DJL-03	CAMEROON	1.00	3.04	13.62	583	1621	23.6	2.4	Orthic Ferralsols	643.7	40.09	432	0.71	BS, M-NK, SLL, LZ
DJL-04	CAMEROON	1.00	3.05	13.62	599	1623	23.5	1.6	Orthic Ferralsols	358.8	28.42	622	0.67	BS, M-NK, SLL, LZ
DJL-05	CAMEROON	1.00	3.03	13.58	603	1624	23.5	1.6	Orthic Ferralsols	542.9	32.70	323	0.70	BS, M-NK, SLL, LZ
DJL-06	CAMEROON	1.00	3.03	13.61	580	1620	23.6	4.0	Orthic Ferralsols	285.3	24.77	505	0.62	BS, M-NK, SLL, LZ
DNG-01	CAMEROON	1.00	5.21	13.44	696	1530	23.9	NA	Orthic Acrisols	486.6	44.73	559	0.52	BS, VD, MS, LZ
DNG-02	CAMEROON	1.00	5.21	13.45	715	1535	23.7	NA	Orthic Acrisols	405.5	37.73	535	0.51	BS, VD, MS, LZ
DOU-01	GABON	1.00	-2.36	10.35	213	1898	24.9	3.4	Ferralic Cambisols	557.6	35.52	413	0.69	JR
DRA-04	GHANA	1.00	5.16	-2.38	80	1921	26.0	1.1	Orthic Ferralsols	256.0	25.16	490	0.55	KA-B, SF, TRB, EF, TF, SLL
DRA-05	GHANA	1.00	5.21	-2.44	87	1928	26.1	1.1	Orthic Ferralsols	277.2	28.01	457	0.56	KA-B, SF, TRB, EF, TF, SLL
DZS-03	CENTRAL AFRICAN REPUBLIC	1.00	2.89	16.19	391	1602	25.0	0.4	Orthic Ferralsols	322.6	29.72	316	0.48	TS
EDO-01	CONGO, Democratic Republic of	10.00	1.56	28.52	796	1750	24.3	11.3	Orthic Ferralsols	394.1	26.90	456	0.69	J-RM, SCT, TH, CE
EDO-02	CONGO, Democratic	10.00	1.56	28.52	796	1750	24.3	10.3	Orthic Ferralsols	357.7	25.27	474	0.68	J-RM, SCT, TH, CE

	Republic of													
EJA-04	CAMEROON	1.00	5.75	8.99	148	2626	26.4	0.2	Eutric Nitosols	397.0	30.17	542	0.70	TS, SLL, BS
EJA-05	CAMEROON	1.00	5.75	8.99	148	2626	26.4	0.1	Eutric Nitosols	381.1	29.74	521	0.68	TS, SLL, BS
EKO-41	GABON	1.00	0.38	13.10	533	1661	23.7	0.3	Orthic Ferralsols	597.1	37.26	380	0.70	JR, SLL
FUR-07	GHANA	1.00	5.56	-2.39	114	1737	26.4	1.6	Orthic Ferralsols	195.3	22.45	550	0.58	KA-B, SF, TRB, SLL
FUR-08	GHANA	0.60	5.58	-2.39	116	1728	26.4	0.7	Orthic Ferralsols	196.4	21.76	522	0.58	KA-B, SF, TRB, SLL
GBO-01	LIBERIA	1.00	5.39	-7.62	153	2350	25.9	0.5	Plinthic Acrisols	415.6	28.86	327	0.71	HW, SLL
GBO-02	LIBERIA	1.00	5.40	-7.62	153	2350	25.9	0.4	Orthic Acrisols	344.8	26.61	371	0.69	HW, SLL
GBO-03	LIBERIA	1.00	5.39	-7.62	167	2353	25.8	0.3	Plinthic Acrisols	365.8	28.93	489	0.66	HW, SLL
GBO-04	LIBERIA	1.00	5.40	-7.61	153	2329	25.9	1.0	Ferric Acrisols	427.0	31.86	370	0.68	HW, SLL
GBO-08	LIBERIA	1.00	5.39	-7.60	167	2353	25.8	1.0	Orthic Acrisols	406.5	30.28	360	0.67	HW, SLL
GBO-10	LIBERIA	1.00	5.40	-7.59	165	2324	25.8	1.2	Ferric Acrisols	407.4	30.54	323	0.62	HW, SLL
GBO-11	LIBERIA	0.68	5.39	-7.59	169	2315	25.8	0.8	Ferric Acrisols	292.4	23.07	328	0.67	HW, SLL
GBO-13	LIBERIA	1.00	5.41	-7.63	153	2338	25.9	0.5	Ferric Acrisols	417.2	28.52	282	0.66	HW, SLL
GBO-14	LIBERIA	1.00	5.41	-7.62	150	2338	25.9	0.2	Ferric Acrisols	389.3	32.38	395	0.61	HW, SLL
GBO-15	LIBERIA	1.00	5.41	-7.61	153	2329	25.9	0.6	Ferric Acrisols	306.6	25.01	390	0.66	HW, SLL
GBO-16	LIBERIA	1.00	5.40	-7.61	154	2319	25.9	1.0	Ferric Acrisols	364.6	30.08	459	0.65	HW, SLL
GBO-18	LIBERIA	1.00	5.41	-7.60	154	2319	25.9	4.9	Ferric Acrisols	309.0	24.25	338	0.65	HW, SLL

GBO-19	LIBERIA	0.79	5.41	-7.60	152	2299	25.9	0.3	Ferric Acrisols	314.9	25.59	366	0.64	HW, SLL
GBO-20	LIBERIA	1.00	5.41	-7.59	152	2299	25.9	0.5	Ferric Acrisols	317.4	22.73	344	0.68	HW, SLL
HAB-02	GABON	1.00	0.63	10.97	442	1968	23.9	3.5	Ferralic Cambisols	387.5	33.99	438	0.55	EC
HAB-03	GABON	1.00	0.70	10.90	441	2017	23.8	0.6	Ferralic Cambisols	467.5	34.57	362	0.61	EC
HAB-04	GABON	1.00	0.63	11.00	468	1949	23.7	0.4	Ferralic Cambisols	431.5	36.17	443	0.58	EC
HAB-05	GABON	1.00	0.64	11.03	470	1934	23.7	2.2	Ferralic Cambisols	231.7	24.22	406	0.47	EC
HAB-06	GABON	1.00	0.54	11.14	521	1872	23.6	3.5	Ferralic Cambisols	343.2	29.46	272	0.55	EC
HAB-07	GABON	1.00	0.73	10.88	465	2027	23.6	1.3	Orthic Ferralsols	576.2	45.68	457	0.56	EC
ITU-01	CONGO, Democratic Republic of	0.25	1.35	28.45	739	1750	24.5	5.1	Orthic Ferralsols	612.7	39.13	336	0.71	TH
ITU-02	CONGO, Democratic Republic of	0.44	1.35	28.53	790	1745	24.3	1.6	Orthic Ferralsols	651.6	39.59	361	0.72	TH
ITU-03	CONGO, Democratic Republic of	0.50	1.33	28.60	780	1724	24.4	4.1	Orthic Ferralsols	576.5	33.91	310	0.71	TH
ITU-04	CONGO, Democratic Republic of	0.50	1.45	28.42	808	1793	24.2	3.5	Orthic Ferralsols	463.3	30.95	458	0.70	TH
ITU-05	CONGO, Democratic Republic of	0.50	1.42	28.50	832	1779	24.1	1.7	Orthic Ferralsols	412.0	27.10	462	0.73	TH
ITU-06	CONGO, Democratic Republic of	0.50	1.43	28.58	780	1743	24.4	0.6	Orthic Ferralsols	503.9	34.03	504	0.69	TH
KDE-01	GHANA	1.00	6.15	-0.92	192	1633	25.9	0.2	Orthic Acrisols	294.3	27.18	525	0.61	MDS

KDE-02	GHANA	1.00	6.15	-0.92	192	1633	25.9	0.2	Ferric Acrisols	311.4	27.49	497	0.59	MDS
KOL-01	CONGO, People's Republic of	1.00	1.20	17.88	341	1747	25.2	2.4	Humic Ferralsols	348.5	25.70	361	0.70	SLL, BS, SKB
KOL-02	CONGO, People's Republic of	0.60	1.36	17.84	341	1747	25.2	7.4	Dystric Histosols	147.3	13.59	185	0.62	SLL, BS, SKB
KOL-03	CONGO, People's Republic of	0.60	1.19	17.85	341	1747	25.2	1.4	Dystric Histosols	316.7	28.73	388	0.62	SLL, BS, SKB
KOL-04	CONGO, People's Republic of	1.00	1.23	17.91	339	1750	25.2	0.6	Xanthic Ferralsols	589.4	36.03	297	0.71	SLL, BS, SKB
KSN-01c	CONGO, Democratic Republic of	1.00	0.30	25.31	469	1778	24.9	13.6	Xanthic Ferralsols	393.3	29.19	443	0.64	JV
KSN-02c	CONGO, Democratic Republic of	1.00	0.31	25.31	469	1778	24.9	2.0	Xanthic Ferralsols	448.0	32.51	586	0.63	JV
KSN-03c	CONGO, Democratic Republic of	1.00	0.30	25.31	469	1778	24.9	2.0	Xanthic Ferralsols	551.9	40.10	542	0.60	JV
KSN-04c	CONGO, Democratic Republic of	1.00	0.30	25.31	469	1778	24.9	1.9	Xanthic Ferralsols	497.8	34.88	438	0.61	JV
KSN-05c	CONGO, Democratic Republic of	1.00	0.30	25.31	469	1778	24.9	1.9	Xanthic Ferralsols	494.9	32.65	412	0.68	JV
KSN-06c	CONGO, Democratic Republic of	1.00	0.30	25.31	469	1778	24.9	1.8	Xanthic Ferralsols	484.9	34.88	444	0.65	JV
KSN-07c	CONGO, Democratic Republic of	1.00	0.31	25.31	469	1778	24.9	1.8	Xanthic Ferralsols	419.0	32.24	479	0.63	JV

KSN-08c	CONGO, Democratic Republic of	1.00	0.31	25.31	469	1778	24.9	1.8	Xanthic Ferralsols	479.7	36.06	481	0.60	JV
KSN-09c	CONGO, Democratic Republic of	1.00	0.29	25.31	462	1776	24.9	1.9	Xanthic Ferralsols	526.6	36.84	536	0.69	JV
KSN-10c	CONGO, Democratic Republic of	1.00	0.29	25.31	471	1780	24.9	2.0	Xanthic Ferralsols	574.1	38.88	418	0.68	JV
KSN-11c	CONGO, Democratic Republic of	1.00	0.29	25.31	471	1780	24.9	2.1	Xanthic Ferralsols	451.9	32.97	420	0.63	JV
KSN-12c	CONGO, Democratic Republic of	1.00	0.29	25.31	471	1780	24.9	2.2	Xanthic Ferralsols	476.7	34.15	500	0.67	JV
LEN-01	CONGO, Democratic Republic of	10.00	1.32	28.65	874	1701	23.9	3.1	Orthic Ferralsols	505.2	31.79	342	0.69	J-RM, SCT, TH, CE
LEN-02	CONGO, Democratic Republic of	10.00	1.31	28.65	796	1750	24.3	4.0	Orthic Ferralsols	539.5	34.28	377	0.69	J-RM, SCT, TH, CE
LKM-01	GABON	1.00	-1.89	13.22	524	1911	23.9	2.0	Orthic Ferralsols	333.3	33.31	474	0.49	EC
LKM-02	GABON	1.00	-1.90	13.21	531	1913	23.9	1.6	Orthic Ferralsols	407.8	37.19	530	0.55	EC
LKM-03	GABON	1.00	-1.90	13.21	574	1935	23.6	1.6	Orthic Ferralsols	448.6	38.57	440	0.55	EC
LKM-05	GABON	1.00	-1.59	13.76	447	1882	24.3	0.3	Ferralic Arenosols	378.8	30.79	463	0.61	EC
LKM-06	GABON	1.00	-1.40	13.73	461	1864	24.3	0.4	Ferralic Cambisols	483.1	39.66	468	0.57	EC
LKM-07	GABON	1.00	-1.31	13.72	443	1844	24.4	2.1	Ferralic Cambisols	461.9	39.08	446	0.57	EC
LMA-99	GABON	0.40	-0.19	11.58	287	1684	25.5	0.4	Ferralic Cambisols	456.2	44.11	395	0.49	LJTW, KJ, MC, SLL

LME-99	GABON	0.40	-0.21	11.60	292	1683	25.5	0.6	Ferralic Cambisols	579.8	37.66	290	0.64	LJTW, KJ, MC, SLL
LMO-99	GABON	0.40	-0.22	11.61	294	1683	25.4	1.6	Ferralic Cambisols	380.6	39.74	483	0.52	LJTW, KJ, MC, SLL
LMP-01	GABON	2.50	-0.25	11.60	350	1707	25.1	3.1	Ferralic Cambisols	437.8	33.81	416	0.62	LJTW, KJ, MC, SLL
LOP-01	GABON	1.00	-0.17	11.42	317	1767	25.2	0.6	Ferralic Cambisols	497.6	36.36	355	0.61	LJTW, KJ, MC, SLL
LOP-25	GABON	2.50	-0.43	11.43	368	1825	24.9	8.2	Ferralic Cambisols	439.0	33.01	327	0.60	LJTW, KJ, MC, SLL
LOT-01	GABON	5.00	-0.97	11.78	339	1825	25.2	1.5	Orthic Ferralsols	492.9	34.61	399	0.64	J-LD
LOT-02	GABON	5.00	-0.83	11.80	292	1768	25.5	3.6	Orthic Ferralsols	446.6	32.16	390	0.65	J-LD
LWW-01	GABON	1.00	-0.42	11.40	302	1818	25.3	9.0	Ferralic Cambisols	425.7	32.31	362	0.62	LJTW, KJ, MC, SLL
MAK-10	GABON	0.40	0.50	12.80	551	1657	23.6	0.8	Orthic Ferralsols	461.3	35.40	443	0.62	AH, SLL
MAL-01	CONGO, Democratic Republic of	1.00	-2.45	16.55	443	1587	24.9	0.4	Ferralic Arenosols	313.5	24.47	447	0.69	J-FB, CDC, JB
MAL-02	CONGO, Democratic Republic of	1.00	-2.46	16.55	443	1587	24.9	0.4	Ferralic Arenosols	342.9	26.42	476	0.70	J-FB, CDC, JB
MAL-03	CONGO, Democratic Republic of	1.00	-2.46	16.56	432	1581	25.0	0.7	Ferralic Arenosols	389.3	25.46	318	0.67	J-FB, CDC, JB
MAL-04	CONGO, Democratic Republic of	1.00	-2.46	16.56	432	1581	25.0	0.9	Ferralic Arenosols	420.0	27.27	336	0.69	J-FB, CDC, JB
MAL-05	CONGO, Democratic Republic of	1.00	-2.55	16.50	451	1585	24.9	0.5	Ferralic Arenosols	486.7	30.81	349	0.70	J-FB, CDC, JB
MAL-06	CONGO, Democratic Republic of	1.00	-2.57	16.48	472	1594	24.8	0.4	Ferralic Arenosols	405.7	29.71	350	0.62	J-FB, CDC, JB

MAL-07	CONGO, Democratic Republic of	1.00	-2.55	16.47	475	1601	24.8	0.5	Ferralic Arenosols	352.5	22.16	181	0.70	J-FB, CDC, JB
MAL-08	CONGO, Democratic Republic of	1.00	-2.53	16.47	470	1601	24.8	1.1	Ferralic Arenosols	421.2	26.62	386	0.75	J-FB, CDC, JB
MAL-09	CONGO, Democratic Republic of	1.00	-2.55	16.50	448	1583	24.9	0.2	Ferralic Arenosols	412.1	25.40	279	0.67	J-FB, CDC, JB
MAL-10	CONGO, Democratic Republic of	1.00	-2.60	16.48	463	1588	24.8	0.2	Ferralic Arenosols	493.9	34.02	477	0.67	J-FB, CDC, JB
MAL-11	CONGO, Democratic Republic of	1.00	-2.61	16.47	465	1592	24.8	0.8	Ferralic Arenosols	462.1	28.50	385	0.71	J-FB, CDC, JB
MAL-12	CONGO, Democratic Republic of	1.00	-2.61	16.48	467	1591	24.8	0.1	Ferralic Arenosols	449.5	26.37	318	0.72	J-FB, CDC, JB
MAL-13	CONGO, Democratic Republic of	1.00	-2.52	16.38	464	1612	24.8	0.5	Ferralic Arenosols	394.9	24.55	293	0.72	J-FB, CDC, JB
MAL-14	CONGO, Democratic Republic of	1.00	-2.53	16.41	512	1627	24.5	0.3	Ferralic Arenosols	384.9	25.55	308	0.69	J-FB, CDC, JB
MAL-15	CONGO, Democratic Republic of	1.00	-2.63	16.50	473	1589	24.8	1.6	Ferralic Arenosols	513.4	28.81	378	0.77	J-FB, CDC, JB
MAL-16	CONGO, Democratic Republic of	1.00	-2.61	16.49	463	1587	24.8	0.2	Ferralic Arenosols	467.8	32.05	458	0.66	J-FB, CDC, JB
MAL-17	CONGO, Democratic Republic of	1.00	-2.47	16.44	430	1595	25.0	0.6	Ferralic Arenosols	410.8	26.64	341	0.70	J-FB, CDC, JB
MBM-01	GABON	2.50	-0.38	10.80	127	2008	26.0	NA	Ferralic Arenosols	470.1	33.04	462	0.69	J-LD

MBM-02	GABON	2.50	-0.42	10.82	175	2015	25.7	NA	Ferralic Arenosols	421.4	28.73	393	0.69	J-LD
MBM-03	GABON	2.50	-0.45	10.83	190	2013	25.6	NA	Ferralic Arenosols	470.2	31.37	412	0.68	J-LD
MBM-04	GABON	2.50	-0.35	10.82	153	2008	25.8	NA	Ferralic Arenosols	627.4	40.30	442	0.68	J-LD
MDC-01	GABON	1.00	0.62	10.41	400	2369	23.6	0.3	Ferralic Cambisols	330.0	28.69	540	0.60	TS
MDC-02	GABON	1.00	0.62	10.41	300	2369	24.1	0.0	Ferralic Cambisols	499.7	39.05	513	0.61	TS
MDC-03	GABON	1.00	0.62	10.42	300	2369	24.1	0.6	Ferralic Cambisols	542.1	35.89	509	0.70	TS
MDC-04	GABON	1.00	0.47	10.28	148	2403	25.3	NA	Ferralic Cambisols	466.1	32.28	497	0.67	TS
MDC-05	GABON	1.00	0.46	10.29	200	2417	25.0	NA	Ferralic Cambisols	676.2	41.91	535	0.70	TS
MDJ-01	CAMEROON	1.00	6.17	12.83	773	1612	23.8	0.1	Orthic Acrisols[1]	360.5	35.56	611	0.53	SLL, BS, TRF, JL
MDJ-03	CAMEROON	1.00	5.98	12.87	761	1590	23.9	0.3	Plinthic Acrisols[1]	296.6	25.59	467	0.56	SLL, BS, TRF, JL
MDJ-07	CAMEROON	1.00	6.01	12.89	755	1591	23.9	0.2	Plinthic Acrisols[1]	296.8	25.56	465	0.56	SLL, BS, TRF, JL
MIN-01	CAMEROON	1.00	2.43	13.52	696	1626	22.8	9.4	Eutric Nitosols	262.3	22.94	370	0.56	BS, VD, MS, LZ
MKN-90	GABON	1.28	-0.78	11.97	364	1726	25.1	0.8	Orthic Ferralsols	478.4	33.69	487	0.69	J-LD
MKN-94	GABON	1.44	-0.78	11.97	364	1726	25.1	0.8	Orthic Ferralsols	464.9	33.40	419	0.67	J-LD
MKN-96	GABON	1.28	-0.78	11.97	364	1726	25.1	0.8	Orthic Ferralsols	414.6	30.53	395	0.63	J-LD
MLL-01	GABON	2.50	-0.60	12.80	577	1750	23.5	0.6	Ferralic Cambisols	449.2	33.40	457	0.65	J-LD, PJ
MLL-02	GABON	2.50	-0.62	12.82	425	1693	24.4	1.5	Ferralic Cambisols	453.8	33.78	408	0.63	J-LD, PJ
MMI-01	EQUATORIAL GUINEA	1.00	1.39	9.92	373	2408	23.3	12.8	Ferralic Cambisols	419.8	29.09	436	0.68	TS

MMI-02	EQUATORIAL GUINEA	1.00	1.37	9.97	552	2430	22.4	13.9	Ferralic Cambisols	344.7	29.97	646	0.61	TS
MNK-01	GABON	1.00	1.16	12.81	548	1625	23.7	22.4	Orthic Ferralsols	403.6	28.00	352	0.67	LJTW, ML
MNK-02	GABON	1.00	1.15	12.81	552	1627	23.7	21.7	Orthic Ferralsols	370.0	26.57	461	0.68	LJTW, ML
MPG-01	UGANDA	0.64	0.21	32.29	1219	1286	21.3	0.5	Orthic Ferralsols	396.2	41.37	491	0.55	AH, DT
MYB-01	GABON	2.50	-3.12	10.95	382	1662	23.6	1.1	Ferralic Cambisols	319.2	26.84	511	0.63	J-LD
MYB-02	GABON	2.50	-3.26	11.11	380	1621	23.6	1.3	Ferralic Cambisols	430.4	33.12	486	0.63	J-LD
MYB-03	GABON	2.50	-3.29	11.13	509	1667	22.9	2.8	Ferralic Cambisols	438.9	35.05	598	0.64	J-LD
NGI-01	CAMEROON	1.00	5.35	9.52	251	2837	26.0	4.3	Eutric Nitosols	330.8	25.51	423	0.69	BS, SLL
NGI-02	CAMEROON	1.00	5.35	9.52	251	2837	26.0	4.9	Eutric Nitosols	484.7	32.75	472	0.74	BS, SLL
NGI-03	CAMEROON	1.00	5.36	9.55	248	2825	26.0	8.0	Eutric Nitosols	318.0	23.79	400	0.68	BS, SLL
NGI-04	CAMEROON	1.00	5.36	9.58	505	2775	24.6	9.7	Eutric Nitosols	394.9	28.92	469	0.71	BS, SLL
NGI-05	CAMEROON	1.00	5.36	9.58	403	2777	25.1	8.8	Eutric Nitosols	396.1	30.78	523	0.70	BS, SLL
NGI-06	CAMEROON	1.00	5.17	9.68	524	2750	24.3	0.8	Eutric Nitosols	347.3	34.11	537	0.54	BS, SLL
NGI-07	CAMEROON	1.00	5.18	9.68	638	2727	23.7	0.7	Eutric Nitosols	259.4	29.96	486	0.50	BS, SLL
NGI-08	CAMEROON	1.00	5.18	9.68	769	2727	23.0	0.6	Humic Andosols	179.2	23.21	457	0.46	BS, SLL
NGO-01	CAMEROON	1.00	2.64	14.14	534	1604	23.7	0.8	Orthic Ferralsols	354.9	32.41	445	0.50	BS, VD, MS, LZ
NGO-02	CAMEROON	1.00	2.64	14.14	586	1612	23.4	0.9	Orthic Ferralsols	495.7	40.06	518	0.56	BS, VD, MS, LZ
NGO-03	CAMEROON	1.00	2.63	14.14	511	1600	23.8	1.4	Orthic Acrisols	185.0	18.12	386	0.55	BS, VD, MS, LZ

NNP-01	CONGO, People's Republic of	1.00	2.23	16.37	379	1663	24.8	1.0	Xanthic Ferralsols	479.1	29.23	258	0.71	TS
NNP-02	CONGO, People's Republic of	1.00	2.24	16.40	366	1662	24.9	4.1	Xanthic Ferralsols	261.5	20.84	291	0.62	TS
NNP-03	CONGO, People's Republic of	1.00	2.38	16.91	458	1712	24.4	2.5	Xanthic Ferralsols	285.6	22.78	307	0.62	TS
OBE-10	NIGERIA	1.25	5.30	8.48	120	2612	26.2	2.2	Eutric Nitosols	310.7	27.60	580	0.66	SLL, LO
OBE-83	NIGERIA	1.00	5.30	8.47	135	2601	26.1	0.4	Eutric Nitosols	315.6	27.75	554	0.68	SLL, LO
OBE-84	NIGERIA	1.00	5.30	8.49	120	2612	26.2	2.5	Eutric Nitosols	265.2	23.39	606	0.72	SLL, LO
OBW-10	NIGERIA	1.13	5.42	8.25	102	2420	26.5	0.5	Eutric Nitosols	461.6	34.18	396	0.62	LO
OGI-01	GABON	1.00	-0.08	12.33	436	1596	24.6	4.5	Orthic Ferralsols	586.2	40.62	350	0.62	EC
OGI-02	GABON	1.00	-0.15	12.27	527	1634	24.1	3.5	Orthic Ferralsols	311.7	25.73	278	0.58	EC
OGI-03	GABON	1.00	-0.19	12.20	249	1543	25.7	0.0	Ferralic Cambisols	262.3	21.61	256	0.57	EC
OGI-04	GABON	1.00	0.42	12.05	522	1602	24.1	NA	Orthic Ferralsols	466.1	37.54	443	0.60	EC
OGI-05	GABON	1.00	0.42	12.08	507	1595	24.2	NA	Orthic Ferralsols	514.9	37.79	335	0.62	EC
OGI-06	GABON	1.00	0.41	12.13	493	1592	24.3	NA	Orthic Ferralsols	353.6	29.52	276	0.55	EC
OGI-07	GABON	1.00	0.39	12.10	507	1595	24.2	NA	Orthic Ferralsols	590.8	39.13	365	0.65	EC
OUT-01	SIERRA LEONE	1.00	9.67	-12.14	83	2304	27.5	0.8	Plinthic Acrisols	191.8	17.33	274	0.56	TS, MB
OVG-01	GABON	1.00	0.73	11.37	601	1754	23.3	2.6	Orthic Ferralsols	510.3	37.32	443	0.62	JR, SLL

OWN-10	NIGERIA	1.25	6.68	5.87	234	1722	25.5	0.2	Dystric Nitosols	383.9	30.97	457	0.65	LO
RBM-01	GABON	2.50	-1.88	10.33	395	2073	24.1	7.8	Ferralic Cambisols	371.0	29.12	471	0.64	J-LD
RBM-04	GABON	2.50	-1.81	10.33	472	2108	23.7	4.4	Ferralic Cambisols	410.4	32.02	516	0.65	J-LD
SAN-21	CONGO, People's Republic of	1.00	2.26	16.38	405	1666	24.7	3.5	Ferralic Arenosols	498.1	31.73	363	0.65	JRP, CJC, DJH
SAN-22	CONGO, People's Republic of	1.00	2.30	16.39	425	1669	24.6	7.5	Ferralic Arenosols	621.3	37.50	354	0.68	JRP, CJC, DJH
SAN-23	CONGO, People's Republic of	1.00	2.35	16.32	433	1662	24.6	13.1	Ferralic Arenosols	515.2	36.46	345	0.59	JRP, CJC, DJH
SAN-24	CONGO, People's Republic of	1.00	2.34	16.35	422	1663	24.6	12.1	Ferralic Arenosols	412.7	30.99	322	0.57	JRP, CJC, DJH
SAN-25	CONGO, People's Republic of	1.00	2.38	16.38	435	1665	24.6	16.2	Ferralic Arenosols	372.2	26.85	324	0.62	JRP, CJC, DJH
SAN-26	CONGO, People's Republic of	1.00	2.37	16.39	446	1671	24.5	15.9	Ferralic Arenosols	366.0	27.95	448	0.61	JRP, CJC, DJH
SAN-27	CONGO, People's Republic of	1.00	2.40	16.43	457	1673	24.4	19.9	Ferralic Arenosols	458.3	31.99	307	0.61	JRP, CJC, DJH
SAN-28	CONGO, People's Republic of	1.00	2.37	16.43	457	1675	24.4	16.9	Ferralic Arenosols	560.1	38.25	435	0.63	JRP, CJC, DJH
SAN-29	CONGO, People's Republic of	1.00	2.40	16.46	451	1674	24.4	21.9	Ferralic Arenosols	382.8	27.19	378	0.65	JRP, CJC, DJH
SAN-30	CONGO, People's Republic of	1.00	2.37	16.47	476	1684	24.3	19.8	Ferralic Arenosols	469.0	31.93	394	0.65	JRP, CJC, DJH

SCA-01	GABON	0.50	-2.57	9.81	35	1875	25.4	0.4	Ferralic Arenosols	642.1	40.83	298	0.65	LJTW, ML
SCA-02	GABON	0.50	-2.57	9.81	35	1875	25.4	0.1	Ferralic Arenosols	467.8	30.90	282	0.67	LJTW, ML
TBE-05	GHANA	0.64	7.01	-2.05	292	1291	25.6	0.5	Eutric Nitosols	266.0	26.25	498	0.58	KA-B, SF, TRB, TF, EGF, SLL
TNP-06	CAMEROON	1.00	6.13	9.41	196	2343	26.4	1.0	Eutric Nitosols	446.9	32.85	472	0.66	TS
TNP-07	CAMEROON	1.00	6.13	9.41	325	2337	25.8	0.6	Eutric Nitosols	595.2	42.39	509	0.67	TS
TNP-08	CAMEROON	1.00	6.31	9.37	1217	2145	21.3	0.3	Eutric Nitosols	249.2	25.73	563	0.60	TS
TNP-10	CAMEROON	1.00	6.20	9.34	171	2283	26.6	0.5	Eutric Nitosols	389.0	28.32	469	0.69	TS
TNP-11	CAMEROON	1.00	6.19	9.34	174	2291	26.6	1.1	Eutric Nitosols	239.3	22.14	414	0.61	TS
TNP-12	CAMEROON	1.00	6.12	9.21	130	2353	26.7	1.0	Eutric Nitosols	449.0	31.65	429	0.71	TS
TNP-13	CAMEROON	1.00	6.13	9.22	140	2344	26.7	1.8	Eutric Nitosols	448.5	32.15	459	0.70	TS
TNP-14	CAMEROON	1.00	6.05	9.27	176	2425	26.5	2.4	Eutric Nitosols	271.2	23.91	400	0.61	TS
TNP-15	CAMEROON	1.00	6.05	9.28	160	2424	26.5	2.5	Eutric Nitosols	369.1	31.98	436	0.60	TS
TON-01	GHANA	1.00	6.07	-2.12	141	1464	26.0	1.1	Ferric Acrisols	346.6	28.04	394	0.62	KA-B, SF, TRB, EGF, TF, SLL
TON-08	GHANA	1.00	6.04	-2.10	120	1457	26.2	2.5	Orthic Acrisols	292.7	29.70	464	0.54	KA-B, SF, TRB, EGF, TF, SLL
UDJ-01	TANZANIA, UNITED REPUBLIC OF	0.25	-8.59	35.87	510	1461	24.5	0.2	Ferralic Cambisols	141.1	16.26	356	0.65	JT, JCL
UDJ-02	TANZANIA, UNITED REPUBLIC OF	0.25	-8.59	35.87	672	1461	23.7	0.2	Ferralic Cambisols	120.1	13.44	296	0.61	JT, JCL
VTA-01	TANZANIA, UNITED	1.00	-7.82	36.98	295	1521	24.8	0.6	Ferralic Cambisols	335.3	24.62	207	0.73	AM, JCL, SLL

	REPUBLIC OF													
VTA-02	TANZANIA, UNITED REPUBLIC OF	1.00	-7.81	36.87	630	1532	23.2	1.8	Chromic Cambisols	253.9	25.66	290	0.57	AM, JCL, SLL
VTA-03	TANZANIA, UNITED REPUBLIC OF	1.00	-7.77	36.89	670	1488	23.0	NA	Chromic Cambisols	344.2	31.44	410	0.64	AM, JCL, SLL
VTA-04	TANZANIA, UNITED REPUBLIC OF	1.00	-7.74	36.91	608	1461	23.3	NA	Chromic Cambisols	300.5	24.54	311	0.69	AM, JCL, SLL
VTA-05	TANZANIA, UNITED REPUBLIC OF	1.00	-7.81	36.85	809	1462	22.2	2.7	Chromic Cambisols	208.6	19.31	355	0.61	AM, JCL, SLL
VTA-13	TANZANIA, UNITED REPUBLIC OF	1.00	-5.11	38.60	995	1847	20.1	0.4	Eutric Nitosols	454.5	43.01	457	0.60	AM, JCL, SLL
VTA-14	TANZANIA, UNITED REPUBLIC OF	1.00	-5.10	38.65	630	1389	22.3	0.5	Eutric Nitosols	228.8	30.75	542	0.50	AM, JCL, SLL
VTA-19	TANZANIA, UNITED REPUBLIC OF	1.00	-7.85	36.87	599	1566	23.4	2.1	Chromic Cambisols	206.5	22.92	454	0.60	AM, JCL, SLL
VTA-23	TANZANIA, UNITED REPUBLIC OF	0.40	-7.01	37.81	374	1686	25.6	0.2	Chromic Cambisols	204.0	22.42	355	0.58	SW, SLL
VTA-24	TANZANIA, UNITED REPUBLIC OF	0.40	-7.18	36.96	593	1005	23.9	0.1	Chromic Cambisols	210.3	23.70	378	0.58	SW, SLL
VTA-28	TANZANIA, UNITED REPUBLIC OF	0.40	-6.00	37.74	521	1055	23.7	0.0	Orthic Ferralsols	349.5	38.07	448	0.53	SW, SLL
VTA-29	TANZANIA, UNITED REPUBLIC OF	0.40	-6.00	37.73	771	1077	22.2	0.6	Orthic Ferralsols	175.5	20.09	420	0.60	SW, SLL
VTA-30	TANZANIA,	0.40	-	37.72	1012	1108	20.9	0.2	Orthic	283.5	26.54	508	0.54	SW, SLL

	UNITED REPUBLIC OF		6.00						Ferralsols					
VTA-34	TANZANIA, UNITED REPUBLIC OF	0.40	-5.47	38.80	90	1175	26.4	0.7	Cambic Arenosols	175.3	19.05	515	0.73	SW, SLL
VTA-35	TANZANIA, UNITED REPUBLIC OF	0.40	-4.97	38.75	201	1224	25.2	0.8	Eutric Nitosols	216.8	27.17	478	0.47	SW, SLL
VTA-36	TANZANIA, UNITED REPUBLIC OF	0.20	-4.97	38.75	288	1171	24.4	1.5	Eutric Nitosols	452.0	43.26	585	0.66	SW, SLL
VTA-40	TANZANIA, UNITED REPUBLIC OF	0.40	-8.09	36.33	311	1462	25.1	2.2	Chromic Cambisols	124.2	15.09	388	0.64	SW, SLL
VTA-41	TANZANIA, UNITED REPUBLIC OF	0.40	-8.06	36.33	318	1455	25.1	1.7	Chromic Cambisols	234.8	22.38	440	0.73	SW, SLL
WKA-09	GABON	1.00	-1.14	11.07	529	2078	24.0	6.0	Ferralic Arenosols	613.7	47.12	551	0.60	TS
WKA-10	GABON	1.00	-1.14	11.07	569	2078	23.8	6.0	Ferralic Arenosols	535.3	44.49	620	0.57	TS
YGB-01	CONGO, Democratic Republic of	1.00	0.99	24.54	515	1792	24.3	1.2	Ferralic Arenosols	440.9	32.63	490	0.63	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-02	CONGO, Democratic Republic of	1.00	0.99	24.54	503	1788	24.4	1.6	Ferralic Arenosols	371.6	31.47	598	0.58	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-03	CONGO, Democratic Republic of	1.00	0.99	24.54	503	1788	24.4	1.9	Ferralic Arenosols	345.3	29.20	556	0.60	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-04	CONGO, Democratic Republic of	1.00	0.81	24.51	464	1768	24.6	2.2	Ferralic Arenosols	437.0	34.81	563	0.63	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-05	CONGO, Democratic Republic of	1.00	0.78	24.52	477	1774	24.5	0.1	Ferralic Arenosols	447.3	35.25	403	0.59	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT

YGB-06	CONGO, Democratic Republic of	1.00	0.83	24.52	438	1765	24.7	3.0	Ferralic Arenosols	498.8	31.80	344	0.67	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-07	CONGO, Democratic Republic of	1.00	0.83	24.53	464	1772	24.6	3.2	Ferralic Arenosols	456.2	32.06	436	0.67	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-08	CONGO, Democratic Republic of	1.00	0.81	24.53	466	1769	24.6	1.5	Ferralic Arenosols	403.6	27.69	374	0.68	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT
YGB-09	CONGO, Democratic Republic of	1.00	0.87	24.46	427	1766	24.7	0.1	Ferralic Arenosols	438.1	27.19	217	0.67	EK, HV, PB, TdH, KH, KS, HB, JB, DH, BT

[1]Lixisols, but these are not included in FAO soil dataset used.