

Supplementary Material

[FORECO4370: Estimates of forest biomass in the Brazilian Amazon: New allometric equations and adjustments to biomass from wood-volume inventories.

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Table 5. Average total biomass (below + aboveground) and aboveground biomass by forest type (dry weight in Mg ha⁻¹) and total stock by state ($\times 10^6$ Mg) in Brazilian Legal Amazonia at the time of the RadamBrasil inventory, therefore before intensive deforestation had occurred. Values in brackets [value] denote only aboveground biomass. All other values denote below + aboveground biomass. Secondary formations and non-forest vegetation were not considered.

Forest type (IBGE code)	Average DW Biomass (Mg ha ⁻¹)	Acre	Amazonas	Amapá	Maranhão	Mato Grosso	Pará	Rondônia	Roraima	Tocantins	Total
Open alluvial rain forest (Aa)	357.8 [298.4]	453.878 [378.527]	2628.872 [2192.441]	29.953 [24.980]		10.425 [8.695]	3.068 [2.559]	179.527 [149.723]		10.739 [8.956]	3316.462 [2765.881]
Open lowland rain forest (Ab)	363.4 [303.1]	4230.781 [3528.755]	8244.753 [6876.677]		2.680 [2.235]		29.563 [24.657]	1516.546 [1264.901]	9.952 [8.301]		14034.274 [11705.526]
Open submontane rain forest (As)	336 [280.2]		1688.396 [1408.002]	18.651 [15.554]	43.295 [36.105]	3370.779 [2810.989]	8995.234 [7501.383]	2954.668 [2463.982]	340.164 [283.672]	513.068 [427.862]	17924.254 [14947.548]
Seasonal Deciduous submontane (Cs)	290.1 [241.9]					259.290 [216.209]	100.996 [84.216]			43.249 [36.064]	403.536 [336.488]
Dense alluvial rain forest (Da)	360.8 [299.3]	21.282 [17.654]	4427.041 [3672.432]	217.135 [180.124]	29.309 [24.313]	177.148 [146.952]	2079.974 [1725.433]	71.020 [58.914]	108.029 [89.615]	9.829 [8.153]	7140.766 [5923.590]
Dense lowland rain forest (Db)	384.5 [318.9]	611.706 [507.342]	25590.142 [21224.177]	796.717 [660.788]	336.086 [278.746]		6215.557 [5155.113]	69.043 [57.263]	381.177 [316.144]		34000.426 [28199.573]
Dense montane rain forest (Dm)	361.3 [299.7]		414.986 [344.233]				32.419 [26.892]		922.239 [765.002]		1369.644 [1136.126]
Dense submontane rain forest (Ds)	385.3 [319.6]	30.798 [25.547]	7694.882 [6382.778]	3132.182 [2598.093]	633.965 [525.864]	1994.164 [1654.127]	17294.611 [14345.595]	435.885 [361.560]	3133.542 [2599.221]	39.105 [32.437]	34389.134 [28525.220]
Seasonal Semideciduous alluvial (Fa)	283.4 [236.4]				0.474 [0.395]	565.080 [471.365]	24.166 [20.158]	9.578 [7.990]	19.671 [16.409]	150.606 [125.629]	769.574 [641.946]
Seasonal Semideciduous in lowland areas (Fb)	309.3 [258]					327.601 [273.265]		46.747 [38.993]			374.347 [312.259]
Seasonal semideciduous submontane (Fs)	315.7 [263.3]				177.145 [147.743]	5298.019 [4418.652]	317.448 [264.758]	252.242 [210.375]	438.728 [365.908]	8.973 [7.484]	6492.555 [5414.918]
Contact Woody oligotrophic vegetation (<i>Campinarana</i>) of swampy & sandy areas / Rain forest (LO)	384.6 [320.8]		468.644 [390.903]			0.260 [0.217]	3.857 [3.217]		246.608 [205.699]		719.370 [600.036]
Contact Rain forest/Seasonal forest (ON)	310.6 [259.1]					1142.401 [952.981]	10.584 [8.829]	99.742 [83.204]	30.902 [25.778]		1283.629 [1070.793]
Contact Savanna / Seasonal forest (SN)	302.7 [252.4]				738.387 [615.689]	1244.575 [1037.762]	28.094 [23.425]	27.929 [23.288]	0.492 [0.410]	261.612 [218.139]	2301.089 [1918.714]
Contact Savanna / Rain forest (SO)	314.3 [262.1]		75.873 [63.272]	8.750 [7.296]	3.460 [2.886]	173.921 [145.035]	223.638 [186.495]	301.178 [251.157]		119.260 [99.453]	906.079 [755.594]
Total only Aboveground		[4457.825]	[42554.913]	[3486.835]	[1633.975]	[12136.249]	[29372.729]	[4971.350]	[4676.158]	[964.177]	[104254.211]
Total (Below- and Aboveground)		5348.444	51233.588	4203.387	1964.801	14563.662	35359.207	5964.104	5631.504	1156.440	125425.138

Table 6. Stock estimate of dry biomass ($\times 10^6$ Mg) by state and forest type in Brazilian Legal Amazonia, excluding areas deforested through 2006 (Brazil, INPE, 2007). Values in brackets [value] denote only aboveground biomass. All other values denote below + aboveground biomass. Secondary formations and non-forest vegetation were not considered. The forest type is in the column headed “IBGE code” (see Table 5 for correspondence).

IBGE code	Acre	Amapá	Amazonas	Maranhão	Mato grosso	Pará	Rondônia	Roraima	Tocantins	Total
Aa	394.288 [328.830]	27.180 [22.668]	2573.827 [2146.534]		10.149 [8.464]	2.466 [2.057]	172.890 [144.188]		7.350 [6.130]	3188.151 [2658.872]
Ab	4105.243 [3424.048]		8172.446 [6816.369]	0.500 [0.417]		23.820 [19.867]	1312.795 [1094.959]	9.903 [8.260]		13624.707 [11363.920]
As		17.994 [15.006]	1658.517 [1383.084]	20.518 [17.110]	2911.118 [2427.664]	8237.571 [6869.546]	2299.615 [1917.715]	323.842 [270.061]	264.490 [220.566]	15733.665 [13120.753]
Cs					163.691 [136.494]	96.389 [80.374]			43.249 [36.063]	303.330 [252.932]
Da	20.524 [17.026]	212.723 [176.463]	4332.541 [3594.039]	21.446 [17.791]	162.814 [135.062]	1994.710 [1654.702]	66.093 [54.827]	107.652 [89.303]	8.667 [7.190]	6927.170 [5746.402]
Db	494.833 [410.409]	778.474 [645.657]	24093.628 [19982.985]	297.693 [246.903]		5459.001 [4527.635]	64.967 [53.883]	380.815 [315.844]		31569.409 [26183.315]
Dm			414.784 [344.065]			32.418 [26.891]		920.949 [763.931]		1368.151 [1134.887]
Ds	30.777 [25.529]	3124.909 [2592.060]	7639.255 [6336.636]	453.528 [376.194]	1295.669 [1074.736]	15898.043 [13187.165]	300.742 [249.461]	3049.585 [2529.581]	9.092 [7.541]	31801.601 [26378.904]
Fa				0.138 [0.115]	525.633 [438.460]	20.590 [17.175]	8.086 [6.745]	19.301 [16.100]	146.288 [122.027]	720.035 [600.622]
Fb					253.719 [211.637]		32.892 [27.436]			286.610 [239.073]
Fs				152.774 [127.417]	4227.746 [3526.023]	308.664 [257.432]	204.652 [170.684]	381.344 [318.049]	8.338 6.954	5283.518 [4406.558]
LO			442.504 [369.098]		0.244 [0.204]	1.820 [1.518]		244.811 [204.200]		689.379 [575.020]
ON					110.917 [92.526]	0.468 [0.390]	7.654 [6.385]	7.192 [6.000]		126.232 [105.301]
SN				694.400 [579.011]	477.601 [398.238]	18.100 [15.093]	12.035 [10.035]	0.492 [0.410]	242.215 [201.966]	1444.844 [1204.753]
SO		7.860 [6.555]	46.762 [38.996]	2.686 [2.240]	47.273 [39.422]	52.652 [43.908]	125.757 [104.871]		12.727 [10.613]	295.717 [246.604]
Total	5045.664 [4205.842]	4169.139 3458.409	49374.264 [41011.808]	1643.682 [1367.197]	10186.575 [8488.931]	32146.713 [26703.753]	4608.178 [3841.188]	5445.887 [4521.738]	742.417 [619.051]	113362.519 [94217.917]

Appendix A. Dry mass of trees directly sampled in open forest in southern Amazonia. Measurements of diameter (in cm) were taken at breast height or just above buttresses. Bole dry mass (in Kg), obtained considering moisture content in each tree (or mean value when absent) and including the mass of the stump. The crown biomass includes all components (e.g., branches, leaves, flowers and fruits). Crown dry mass was obtained considering 47.6% as moisture content (see section 2.3).

Scientific name	Diameter	Bole	Crown	Scientific name	Diameter	Bole	Crown
<i>Pseudolmedia macrophylla</i> Trécul	5.157	4.931	1.834	<i>Trichilia</i> cf. <i>rubra</i> C. DC.	7.321	44.979	14.882
<i>Guarea</i> sp.	5.507	14.309	2.306	<i>Pourouma minor</i> Benoist	7.480	6.918	7.284
<i>Ocotea longifolia</i> H.B.K.	5.570	5.662	3.825	<i>Protium</i> cf. <i>spruceanum</i> (Benth.) Engl.	7.480	6.998	4.873
<i>Ocotea</i> cf. <i>aciphylla</i> (Nees) Mez	5.634	5.320	4.035	<i>Fusaea longifolia</i> (Aubl.) Saff.	7.576	21.878	9.327
<i>Maquira calophylla</i> (Planch. & Endl.) C.C. Berg	5.730	7.388	2.201	<i>Brosimum guianense</i> (Aubl.) Huber	7.639	15.072	6.550
<i>Sclerolobium</i> sp.	5.793	8.279	2.463	<i>Sclerolobium</i> cf. <i>micropetalum</i> Ducke	7.703	11.359	9.170
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	5.825	7.507	3.458	<i>Theobroma speciosum</i> Willd. ex Spreng	7.703	15.206	2.096
<i>Miconia holosericea</i> (L.) DC.	5.825	7.986	4.087	<i>Theobroma speciosum</i> Willd. ex Spreng	7.703	25.019	1.048
<i>Pouteria reticulata</i> (Engl.) Eyma	5.984	14.236	4.402	<i>Enterolobium</i> sp.	7.703	21.409	4.192
<i>Naucleopsis glabra</i> Spruce ex Pittier	6.048	11.658	6.550	<i>Cordia sprucei</i> Mez	7.703	33.942	1.572
<i>Sterculia</i> sp.	6.112	4.646	2.096	<i>Brosimum guianense</i> (Aubl.) Huber	7.830	25.049	4.978
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	6.207	6.577	6.812	<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	7.862	17.512	6.550
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	6.207	8.036	6.026	<i>Pouteria</i> cf. <i>cladantha</i> Sandwith	7.862	23.474	5.974
<i>Swartzia polyphylla</i> DC.	6.271	10.106	3.825	<i>Quararibea ochrocalyx</i> (K. Schum.) Vischer	7.862	15.776	5.450
<i>Guarea</i> cf. <i>humaitensis</i> T.D. Penn.	6.303	9.360	3.773	<i>Virola</i> cf. <i>venosa</i> (Benth.) Warb.	7.894	14.932	3.668
<i>Protium</i> cf. <i>spruceanum</i> (Benth.) Engl.	6.303	9.555	5.240	<i>Trichilia guianensis</i> Klotzsch ex C. DC.	8.085	79.689	16.244
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	6.366	7.216	4.454	<i>Maquira calophylla</i> (Planch. & Endl.) C.C. Berg	8.117	13.955	9.432
<i>Simarouba amara</i> Aubl.	6.366	4.145	4.087	<i>Astronium le-cointei</i> Ducke	8.212	15.780	3.668
<i>Fusaea longifolia</i> (Aubl.) Saff.	6.398	9.725	5.869	<i>Cordia sprucei</i> Mez	8.212	42.586	2.201
<i>Pourouma minor</i> Benoist	6.462	4.008	7.336	<i>Pseudoxandra obscurinervis</i> Maas	8.308	24.409	13.467
<i>Guarea kunthiana</i> A.Juss.	6.462	11.011	4.611	<i>Guatteria</i> sp.	8.435	22.126	2.620
<i>Pseudima frutescens</i> (Aubl.) Radlk.	6.462	13.676	1.100	<i>Iryanthera sagotiana</i> Warb.	8.499	24.144	6.393
<i>Protium guianensis</i> (Aubl.) Marchand	6.462	12.001	10.270	<i>Pouteria</i> cf. <i>campanulata</i> Baehni	8.531	28.203	6.812
<i>Sclerolobium</i> sp.	6.589	13.446	5.240	<i>Trichilia micrantha</i> Benth.	8.594	28.856	5.869
<i>Trichilia micrantha</i> Benth.	6.685	10.369	8.856	<i>Naucleopsis caloneura</i> (Huber) Ducke	8.658	17.148	11.423
<i>Sclerolobium</i> sp.	6.685	9.414	1.310	<i>Poeppigia procera</i> C. Presl	8.722	23.343	7.860
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	6.780	11.575	10.847	<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	8.881	18.416	16.087
<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	6.780	10.354	4.192	<i>Pseudolmedia macrophylla</i> Trécul	8.881	30.032	7.860
<i>Theobroma speciosum</i> Willd. ex Spreng	6.907	10.288	6.131	<i>Metrodorea flavida</i> K. Krause	8.913	22.789	23.318
<i>Trichilia micrantha</i> Benth.	6.907	44.145	9.432	<i>Trichilia</i> sp.	8.913	33.617	20.960
<i>Astronium le-cointei</i> Ducke	7.035	14.187	2.253	<i>Trichilia</i> sp.	9.040	26.189	36.575
<i>Trichilia</i> sp.	7.066	13.747	4.716	<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	9.072	18.547	12.576
<i>Pouteria</i> cf. <i>campanulata</i> Baehni	7.257	27.261	5.240	<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	9.104	29.287	6.655

Appendix A (continued)

Scientific name	Diameter	Bole	Crown	Scientific name	Diameter	Bole	Crown
<i>Theobroma speciosum</i> Willd. ex Spreng	9.135	29.970	6.393	<i>Pouteria</i> cf. <i>anomala</i> (Pires) T.D. Penn.	10.472	47.156	21.694
<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	9.167	37.902	6.288	<i>Pouteria</i> cf. <i>campanulata</i> Baehni	10.568	99.734	20.646
<i>Metrodorea flavida</i> K. Krause	9.231	33.512	14.567	<i>Copaifera multijuga</i> Hayne	10.632	35.680	21.222
<i>Trichilia quadrijuga</i> Kunth	9.263	24.457	19.021	<i>Qualea</i> cf. <i>paraensis</i> Ducke	10.663	26.821	14.934
<i>Protium</i> cf. <i>spruceanum</i> (Benth.) Engl.	9.263	19.991	15.982	<i>Diploptropis purpurea</i> var. <i>leptophylla</i> (Kleinhoonte) Amshoff	10.663	38.699	11.266
<i>Tetragastris panamensis</i> (Engl.) Kuntze	9.263	33.426	15.720	<i>Brosimum acutifolium</i> Huber ssp. <i>interjectum</i> C.C. Berg	10.886	30.572	9.432
<i>Guarea trunciflora</i> C. DC.	9.295	25.526	18.078	<i>Pourouma minor</i> Benoist	10.918	24.165	13.362
<i>Swartzia tessmannii</i> Harms	9.326	30.627	9.799	<i>Annona ambotay</i> Aubl.	10.982	44.464	29.239
<i>Ocotea aciphylla</i> (Nees) Mez	9.390	22.049	4.716	<i>Hirtella</i> sp.	11.141	56.516	27.405
<i>Mouriri duckeanoides</i> Morley	9.454	45.959	10.270	<i>Astronium le-cointei</i> Ducke	11.141	42.647	13.624
<i>Matayba</i> cf. <i>purgans</i> (Poepp. & Endl.) Radlk.	9.549	17.283	25.938	<i>Eugenia anastomosans</i> DC.	11.300	28.068	36.313
<i>Theobroma speciosum</i> Willd. ex Spreng	9.549	22.850	11.842	<i>Cordia</i> sp.	11.364	40.127	12.052
<i>Quararibea ochrocalyx</i> (K. Schum.) Vischer	9.645	39.932	3.249	<i>Chrysophyllum</i> sp.	11.459	59.860	38.566
<i>Talisia cerasina</i> (Benth.) Radlk.	9.708	38.083	15.301	<i>Fusaea longifolia</i> (Aubl.) Saff.	11.555	53.173	38.671
<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	9.708	23.635	13.834	<i>Pouteria</i> sp.	11.555	85.989	13.624
<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	9.708	24.438	17.868	<i>Trichilia micrantha</i> Benth.	11.555	69.757	22.532
<i>Pouteria anomala</i> (Pires) T.D. Penn.	9.708	46.525	22.532	<i>Quararibea ochrocalyx</i> (K. Schum.) Vischer	11.555	58.342	21.274
<i>Rinoreaocarpus ulei</i> (Melch.) Ducke	9.740	25.732	6.236	<i>Lueheopsis duckeana</i> Burret	11.618	36.176	11.004
<i>Trichilia micrantha</i> Benth.	9.804	28.180	19.440	<i>Cordia ecalyculata</i> Vell.	11.618	52.188	12.157
<i>Cheiloclinium cognatum</i> (Miers) A.C. Smith	9.804	26.823	14.672	<i>Tetragastris altissima</i> (Aubl.) Swart	11.650	40.990	24.418
<i>Metrodorea flavida</i> K. Krause	9.868	24.767	30.759	<i>Diploptropis triloba</i> Gleason	11.650	63.497	35.003
<i>Theobroma microcarpum</i> Mart.	9.868	26.561	11.528	<i>Tetragastris altissima</i> (Aubl.) Swart	11.682	34.688	27.248
<i>Quararibea ochrocalyx</i> (K. Schum.) Vischer	9.931	27.591	11.633	<i>Cheiloclinium cognatum</i> (Miers) A.C. Smith	11.777	37.882	24.261
<i>Trichilia micrantha</i> Benth.	9.931	40.849	17.292	<i>Pseudolmedia macrophylla</i> Trécul	11.777	57.620	15.353
<i>Theobroma microcarpum</i> Mart.	9.931	28.921	6.498	<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	11.937	53.812	20.698
<i>Theobroma speciosum</i> Willd. ex Spreng	10.090	77.325	2.306	<i>Astronium le-cointei</i> Ducke	12.000	56.867	14.724
<i>Cheiloclinium cognatum</i> (Miers) A.C. Smith	10.186	27.599	16.925	<i>Pouteria reticulata</i> (Engl.) Eyma	12.000	97.335	21.274
<i>Protium</i> cf. <i>spruceanum</i> (Benth.) Engl.	10.186	32.008	25.152	<i>Conceveiba guianensis</i> Aubl.	12.032	41.190	35.632
<i>Tocoyena</i> sp.	10.186	30.453	7.074	<i>Protium</i> cf. <i>spruceanum</i> (Benth.) Engl.	12.159	37.099	51.562
<i>Theobroma speciosum</i> Willd. ex Spreng	10.281	31.993	0.943	<i>Drypetes variabilis</i> Uittien	12.191	50.897	25.414
<i>Trichilia micrantha</i> Benth.	10.281	34.766	26.514	<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	12.350	45.826	25.833
<i>Maquira sclerophylla</i> (Ducke) C.C. Berg	10.345	25.243	12.262	<i>Vantanea</i> sp.	12.414	87.154	24.890
<i>Leonia glycyarpa</i> Ruiz & Pav.	10.441	29.244	20.017	<i>Cheiloclinium cognatum</i> (Miers) A.C. Smith	12.414	39.775	25.676

Appendix A (continued)

Scientific name	Diameter	Bole	Crown	Scientific name	Diameter	Bole	Crown
<i>Inga flagelliformis</i> (Vell.) Mart.	12.414	40.466	44.278	<i>Sclerolobium</i> sp.	15.279	60.103	52.505
<i>Hirtella</i> cf. <i>racemosa</i> Lam.	12.414	95.553	37.309	<i>Couratari</i> sp.	15.438	67.562	15.353
<i>Naucleopsis glabra</i> Spruce ex Pittier	12.541	51.467	25.414	<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	15.438	69.035	42.968
<i>Hymenolobium modestum</i> Ducke	12.573	51.999	12.838	<i>Clarisia racemosa</i> Ruiz & Pav.	15.438	88.251	38.200
<i>Pouteria anomala</i> (Pires) T.D. Penn.	12.637	71.110	22.008	<i>Theobroma microcarpum</i> Mart.	15.756	75.427	44.121
<i>Paypayrola grandiflora</i> Tul.	12.796	28.728	33.117	<i>Fusaea longifolia</i> (Aubl.) Saff.	15.756	103.081	57.064
<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	13.178	62.120	32.488	<i>Vantanea guianensis</i> Aubl.	15.915	226.887	65.186
<i>Batocarpus amazonicus</i> (Ducke) Fosberg	13.210	74.652	18.235	<i>Aspidosperma</i> cf. <i>spruceanum</i> Mull. Arg.	15.979	72.794	33.588
<i>Siparuna</i> sp.	13.210	40.584	9.222	<i>Aspidosperma</i> cf. <i>spruceanum</i> Mull. Arg.	16.234	99.764	35.422
<i>Toulicia guianensis</i> Aubl.	13.242	98.592	20.122	<i>Leonia glycyarpa</i> Ruiz & Pav.	16.297	70.984	77.028
<i>Tetragastris altissima</i> (Aubl.) Swart	13.369	51.973	33.274	<i>Andira inermis</i> (W. Wright) Kunth ex. DC.	16.393	96.919	37.466
<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	13.369	77.545	48.732	<i>Protium decandrum</i> (Aubl.) March.	16.457	102.970	47.684
<i>Hymenolobium</i> cf. <i>pulcherrimum</i> Ducke	13.369	80.773	28.558	<i>Ocotea</i> sp.	16.488	94.238	90.862
<i>Iseritia hypoleuca</i> Benth.	13.369	53.783	21.117	<i>Tetragastris altissima</i> (Aubl.) Swart	16.520	91.451	92.434
<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	13.433	82.510	19.388	<i>Tetragastris altissima</i> (Aubl.) Swart	16.616	63.586	70.111
<i>Brosimum guianense</i> (Aubl.) Huber	13.433	97.291	39.824	<i>Pouteria</i> cf. <i>glomerata</i> (Miq.) Radlk.	16.648	93.245	66.653
<i>Sterculia pruriens</i> (Aubl.) K. Schum.	13.433	37.535	2.096	<i>Heisteria</i> aff. <i>spruceana</i> Engl.	16.648	132.944	43.387
<i>Apeiba echinata</i> Gaertner	13.496	27.077	8.489	<i>Metrodorea flavida</i> K. Krause	16.679	117.125	75.142
<i>Lueheopsis duckeana</i> Burret	13.496	110.742	17.292	<i>Theobroma microcarpum</i> Mart.	17.316	80.148	67.229
<i>Astronium le-cointei</i> Ducke	13.592	115.360	9.746	<i>Ecclinusa guianensis</i> Eyma	17.603	148.523	78.390
<i>Ecclinusa guianensis</i> Eyma	13.687	61.279	35.108	<i>Brosimum guianense</i> (Aubl.) Huber	17.825	253.099	30.025
<i>Toulicia guianensis</i> Aubl.	13.687	110.562	40.348	<i>Ecclinusa guianensis</i> Eyma	18.239	154.452	26.934
<i>Metrodorea flavida</i> K. Krause	13.878	55.304	69.063	<i>Pourouma</i> cf. <i>tomentosa</i> Miq. ssp. <i>apiculata</i> (Benoist) C.C. Berg. & van Heusden	18.335	96.571	55.544
<i>Pseudolmedia laevis</i> (Ruiz & Pav.) Macbr.	13.942	87.073	41.448	<i>Sclerolobium</i> sp.	18.621	98.250	67.910
<i>Pouteria</i> cf. <i>anomala</i> (Pires) T.D. Penn.	14.006	106.683	35.842	<i>Bixa arborea</i> Huber	18.876	80.080	39.824
<i>Inga stipularis</i> DC.	14.069	100.868	37.204	<i>Tetragastris altissima</i> (Aubl.) Swart	18.939	179.786	94.530
<i>Trichilia micrantha</i> Benth.	14.165	59.181	65.081	<i>Sclerolobium</i> sp.	19.099	145.187	47.789
<i>Ocotea nitida</i> (Meissn.) Rohwer	14.324	83.112	38.147	<i>Paypayrola grandiflora</i> Tul.	19.099	88.087	52.295
<i>Gustavia augusta</i> L.	14.706	63.104	69.325	<i>Guapira noxia</i> (Netto) Lundell	19.226	166.992	26.200
<i>Cheilochlinium cognatum</i> (Miers) A.C. Smith	14.833	50.764	52.767	<i>Hymenaea courbaril</i> L.	19.290	280.987	67.491
<i>Maquira calophylla</i> (Planch. & Endl.) C.C. Berg	14.897	151.936	64.871	<i>Guazuma</i> sp.	19.735	157.565	77.552
<i>Protium</i> sp.	14.961	51.163	52.505	<i>Rinoreocarpus ulei</i> (Melch.) Ducke	19.894	137.729	97.097
<i>Pseudolmedia macrophylla</i> Trécul	15.183	98.427	47.422	<i>Inga thibaudiana</i> DC. ssp. <i>thibaudiana</i>	19.990	162.424	207.399

Appendix A (continued)

Scientific name	Diameter	Bole	Crown	Scientific name	Diameter	Bole	Crown
<i>Tetragastris altissima</i> (Aubl.) Swart	20.690	161.175	145.672	<i>Laetia procera</i> (Poepp.) Eichler	34.600	647.936	256.026
<i>Pouteria</i> cf. <i>glomerata</i> (Miq.) Radlk.	20.849	221.429	115.804	<i>Guarea grandifolia</i> DC.	36.478	671.551	376.337
<i>Sapium glandulosum</i> (L.) Morong	21.072	168.438	30.654	<i>Sarcaulus</i> sp.	37.561	958.266	481.084
<i>Pouteria</i> cf. <i>glomerata</i> (Miq.) Radlk.	21.231	167.727	73.412	<i>Trattinnickia</i> cf. <i>peruviana</i> Loes.	37.847	701.722	103.752
<i>Pouteria</i> cf. <i>glomerata</i> (Miq.) Radlk.	21.804	253.713	205.722	<i>Celtis schippii</i> Standl.	38.834	578.894	826.610
<i>Ecclinusa guianensis</i> Eyma	21.868	179.692	137.183	<i>Pourouma minor</i> Benoist	42.654	624.374	429.360
<i>Batocarpus amazonicus</i> (Ducke) Fosberg	22.377	145.583	151.960	<i>Tabebuia</i> sp.	42.813	1001.629	360.040
<i>Pourouma</i> cf. <i>tomentosa</i> Miq. ssp. <i>apiculata</i> (Benoist) C.C. Berg. & van Heusden	22.695	103.069	125.655	<i>Copaifera multijuga</i> Hayne	43.386	1112.924	594.897
<i>Guatteria citriodora</i> Ducke	22.855	160.868	36.942	<i>Parkia</i> sp.	44.245	772.062	803.816
<i>Celtis schippii</i> Standl.	23.619	255.082	113.446	<i>Castilloa ulei</i> Warb	44.977	870.831	280.445
<i>Theobroma microcarpum</i> Mart.	23.810	204.364	72.312	<i>Pouteria</i> cf. <i>glomerata</i> (Miq.) Radlk.	45.200	1123.773	741.612
<i>Cochlospermum orinocense</i> (Kunth) Steud.	24.414	159.851	47.160	<i>Tetragastris altissima</i> (Aubl.) Swart	45.200	959.248	918.504
<i>Dialium guianense</i> Steud.	24.605	388.684	270.541	<i>Inga alba</i> (Swartz.) Willd.	45.391	971.430	970.710
<i>Chrysophyllum prieurii</i> A.DC.	25.656	346.993	179.627	<i>Hymenolobium nitidum</i> Benth.	46.473	2116.318	455.508
<i>Sterculia excelsa</i> Mart.	26.101	230.296	256.021	<i>Eriotheca globosa</i> (Aubl.) Robyns	49.020	1537.381	690.417
<i>Brosimum lactescens</i> (S. Moore) C.C.Berg.	26.261	430.842	403.637	<i>Sclerolobium</i> cf. <i>setiferum</i> Ducke	49.179	797.432	682.248
<i>Protium tenuifolium</i> (Engl.) Engl.	26.674	414.925	154.842	<i>Pouteria engleri</i> Eyma	49.179	929.378	1861.405
<i>Chrysophyllum lucentifolium</i> Cronquist ssp. <i>pachicardium</i> Pires T. D. Pen	27.566	493.789	304.654	<i>Hymenolobium</i> cf. <i>pulcherrimum</i> Ducke	50.611	1783.359	586.560
<i>Cecropia sciadophylla</i> Mart.	27.852	162.585	63.771	<i>Anacardium giganteum</i> W. Hancock ex Engl.	55.068	1304.826	1588.244
<i>Tetragastris altissima</i> (Aubl.) Swart	28.170	347.705	318.435	<i>Bowdichia nitida</i> Spruce ex Benth.	57.296	2908.971	1748.850
<i>Sclerolobium</i> cf. <i>micropetalum</i> Ducke	28.234	279.991	278.034	<i>Hymenolobium sericeum</i> Ducke	58.887	1934.341	3133.447
<i>Hymenolobium modestum</i> Ducke	28.648	525.526	75.980	<i>Schefflera morototoni</i> (Aubl.) Frodin	59.206	1606.274	2154.636
<i>Croton palanostigma</i> Klotzsch	28.903	272.170	184.553	<i>Diploptropis purpurea</i> var. <i>leptophylla</i> (Kleinhoonte) Amshoff	59.683	2921.665	2696.195
<i>Neea</i> cf. <i>oppositifolia</i> Ruiz & Pav.	28.966	229.555	170.090	<i>Anacardium giganteum</i> W. Hancock ex Engl.	60.001	1568.175	1521.329
<i>Guarea trunciflora</i> C. DC.	28.966	425.689	95.473	<i>Abarema jupunba</i> (Willd.) Britton & Killip	69.073	2244.257	1560.210
<i>Theobroma microcarpum</i> Mart.	29.921	376.574	297.265	<i>Sterculia excelsa</i> Mart.	70.506	2899.104	1506.469
<i>Inga thibaudiana</i> DC. ssp. <i>thibaudiana</i>	31.417	236.848	657.096	<i>Brosimum gaudichaudii</i> Trécul	74.262	3383.978	3001.760
<i>Schefflera morototoni</i> (Aubl.) Frodin	31.513	218.053	39.981	<i>Goupia glabra</i> Aubl.	74.803	5151.810	2158.932
<i>Protium</i> cf. <i>decandrum</i> (Aubl.) March.	33.295	316.394	308.112	<i>Astronium le-cointei</i> Ducke	82.442	5879.339	3999.676
<i>Sclerolobium</i> cf. <i>micropetalum</i> Ducke	33.423	406.630	189.478	<i>Torresia acreana</i> Ducke	85.944	5309.510	2877.274
<i>Anacardium giganteum</i> W. Hancock ex Engl.	33.486	453.887	128.223	<i>Hymenolobium pulcherrimum</i> Ducke	90.082	6629.034	3026.289
<i>Astronium le-cointei</i> Ducke	33.900	954.535	112.765	<i>Spondias lutea</i> L.	95.016	2825.135	1741.252
<i>Tovomita</i> sp.	34.473	738.246	446.553	<i>Bagassa guianensis</i> Aubl.	124.777	12118.577	8297.383

Appendix B. Parameters of the biomass equations developed excluding the single tree > 100 cm diameter above buttresses (see Figure 1). All trees were sampled in open forest in the southern Amazonia (SA) (diameter range 5-95 cm). The diameter measurements were taken at breast height (1.30 m above the ground) or just above any buttresses. Measurements of diameter are in cm and those of mass are in Kg.

Model	Parameters ^a [$\ln(\text{Dry weight}) = \alpha + \beta \ln(\text{Diameter})$]						n	Adjusted r^2	SEE ^c
	α ($\pm SE$)	95% CI ^b		β ($\pm SE$)	95% CI ^b				
		<i>Lower bound</i>	<i>Upper bound</i>		<i>Lower bound</i>	<i>Upper bound</i>			
Whole tree	- 1.717 (0.081)	- 1.875	- 1.558	2.413 (0.029)	2.355	2.471	261	0.963	0.307
Bole	- 1.926 (0.094)	- 2.112	- 1.740	2.334 (0.035)	2.266	2.402	261	0.946	0.359
Crown	- 3.358 (0.148)	- 3.651	- 3.066	2.579 (0.054)	2.473	2.686	260	0.897	0.565

^aAll parameter values are significant ($p \leq 0.0001$).

^bConfidence Interval

^cStandard Error of the Estimate (SEE) = $\sqrt{\text{Residual Mean-Square}}$