

SUPPLEMENTAL MATERIALS

Table S1. Dendrometry attributes applied for the characterization of the forest structure.

Dendrometric Attributes	Method
Tree height [H_t , m]	* Estimated by clinometer.
Stem length [h_f , m]	* Estimated by clinometer.
Crown height [h_c , m]	$hc = Ht - hf$
Crown diameter, larger [D, m] and lower [d, m]	Based on measurement of 2 diameters: in the North-South and East-West direction by a measuring tape.
Crown projection Area [CA, m ²].	$CA = \frac{D \cdot d \cdot \pi}{4}$
Crown volume [V _c , m ³]	$Vc = \frac{4}{3 \times 8} \pi D \cdot d \cdot hc$
Diameter at breast height [D, cm].	$DBH = \frac{CBH}{\pi}$ CBH = circumference at breast at 1.30 m above soil ground level, measured by a tape (cm).
Basal Area [BA, m ² ha ⁻¹]	$BA = \frac{\pi \cdot DBH^2}{40000}$
Density of trees [ind ha ⁻¹]	The density of forest trees was obtained by counting all forest trees with (DBH) ≥ 10 cm in each plot and than extrapolated per hectare.

Table S2. Families and forest species observed at unlogged (UL) and logged (L) plots at Jamari National Forest, Rondônia, Brazil. P1/P2/P3 – plots at unlogged forest; P4/P5/P6 – plots at logged forest.

Family Specie	Popular name	Local	PLOTS						Total
			P1	P2	P3	P4	P5	P6	
ANACARDIACEAE									2
<i>Astronium lecointei</i> Ducke	Muiracatiara	UF/LF	1					1	2
ANNONACEAE									12
<i>Duguetia lanceolata</i>	Pindaíba	UF/LF	2			1	2		5
<i>Guatteria australis</i> A.St.-Hil.	Pindaíba Preta	UF	1	3					4
<i>Xylopia</i> sp	Envira, Envira branca	UF/LF	1	1				1	3
APOCYNACEAE									1
<i>Aspidosperma macrocarpon</i> Mart.	Guarantã	LF						1	1
ARECACEAE									69
<i>Euterpe precatoria</i> Mart.	Açaí	UF/LF	1			1		1	3
<i>Oenocarpus bacaba</i> Mart.	Bacaba	LF				1			1
<i>Orbignya speciosa</i> (Mart.) Barb. Rodr.	Babaçu	UF/LF	11	7	6	17	11	12	64
<i>Socratea exorrhiza</i>	Paxiuba	LF					1		1

LECYTHIDACEAE										7
<i>Bertholletia excelsa</i> H.B.K.	Castanheira	UF/LF	1		1					2
<i>Eschweilera coriacea</i> (DC.)	Matamatá	UF/LF			1	1	1	2		5
LEGUMINOSAE										4
<i>Dinizia excelsa</i> Ducke	Faveira Ferro	UF/LF	1	2						3
<i>Inga Vera</i>	Ingazeiro	LF						1		1
MALVACEAE										4
<i>Luehea divaricata</i>	Açoita cavalo	LF						1		1
<i>Sterculia striata</i> St. Hil. et Naudin	Xixá Bolão	UF/LF		1	1		1			3
MELIACEAE										11
<i>Guarea</i> sp.	Jitó	UF/LF	2	2	1	1	1	1		8
<i>Trichillia</i> sp.	Murici	UF/LF	1			2				3
MIMOSACEAE										4
<i>Parkia pendula</i> Benth. ex. Walp.	Angelin Saia	UF	1							1
<i>Parkia</i> sp.	Fava branca						1	1		2
<i>Stryphnodendron Guianensis</i> (Aubl.) Benth.	Baginha	UF		1						1
MORACEAE										54
<i>Brosimum rubescens</i> Taub	Amapá	LF					1			1
<i>Castilla ulei</i> Warburg.	Caucho	LF	1				1			2
<i>Pseudolmedia laevis</i> (R.& P) Macabr.	Pama Cegador	UF/LF	17	8	9	3	5	9		51
MYRISTICACEAE										16
<i>Iryanthera tricomis</i>	Ucuúba-sangue	UF/LF	2	1			1	3		7
<i>Virola surinamensis</i> (Rol. ex Rottb.) Warb.	Ucuúba D'água, Virola	UF/LF	3	1	2	1	2			9
OLACACEAE										1
<i>Minquartia guianensis</i> Aubl.	Acariquara	LF					1			1
RUBIACEAE										3
<i>Balizia</i> sp.	Escorrega Macaco	UF	2							2
<i>Duroia macrophylla</i> Huber	Sanguinho	UF				1				1
RUTACEAE										1
<i>Zanthoxylum rhoifolium</i> Lam	Mamica de porca	LF						1		1
SAPOTACEAE										17
<i>Manilkara huberi</i>	Maçaranduba	UF					1			1
<i>Pouteria torta</i> (Mart.) Radlk.	Abiorana	UF/LF	3	3	5		4	1		16
STERCULIACEAE										6
<i>Sterculia pruriens</i> (Aubl.) K. Schum.	Xixá	UF	1	1						2
<i>Theobroma</i> sp.	Cupuí	UF/LF	1		1			1		3
<i>Theobroma sylvestris</i> Mart.	Cacaúí	UF			1					1
TILIACEAE										4
<i>Apeiba echinata</i> Gaertn.	Pente de Macaco	UF/LF			1	1	1	1		4
ULMACEAE										1
<i>Ampelocera ruizii</i> Kuhlman	Cinzeiro	LF					1			1
URTICACEAE										2
<i>Pourouma guianensis</i> Aubl.	Embaúbarana	UF/LF	1				1			2
VERBENACEAE										2

<i>Lantana camara</i> L.	Cambará	UF	1	1					2
VOCHYSIACEAE									6
<i>Erisma uncinatum</i> Warm	Cambará Rosa	UF		2	1				3
<i>Qualea paraense</i> Ducke	Mandioqueiro	LF					1		1
<i>Qualea tesmannii</i> Milldr.	Catuaba amarela	UF/LF			1		1		2
I - Unknown									21
I_1	Unknown	UF	1						1
I_2	Unknown	UF	1						1
I_3	Unknown	UF	1						1
I_4	Unknown	UF	1						1
I_5	Unknown	UF	1						1
I_6	Unknown	UF		1					1
I_7	Unknown	UF		1					1
I_8	Unknown	UF		1					1
I_9	Unknown	UF			1				1
I_10	Unknown	UF			1				1
I_11	Unknown	UF			1				1
I_12	Unknown	LF				1			1
I_13	Unknown	LF				1			1
I_14	Unknown	LF					1		1
I_15	Unknown	LF					1		1
I_16	Unknown	LF						1	1
I_17	Unknown	LF						1	1
I_18	Unknown	LF						1	1
I_19	Unknown	LF						1	1
I_20	Unknown	LF						1	1
I_21	Unknown	LF						1	1
Total			74	59	63	56	59	58	369

Table S3. Statistical analyses for open rainfall and net precipitation in the Unlogged (UL) and Logged (L) at Jamari National Forest, Rondônia, Brazil.

Values	Open rainfall		Net precipitation	
	[mm]			
	UN	L	UN	L
Min	0	0	0	0
Max	324.8	267.5	278.8	243.2
Mean	143.7	136.3	162.0	129.2
SD (mm)	110.1	102.7	95.1	90.3
CV (%)	76.6	75.4	58.7	69.9
Rainy	1689.2	1618.5	1797.9	1508.8
Dry	179.0	152.9	308.4	170.2
Total	1868.2	1771.3	2106.3	1679.0

Table S4. Litter fractions descriptive analyses for unlogged (UL) and logged (L) at Jamari National Forest, Rondônia, Brazil.

Months	Litter Fractions [t ha ⁻¹]								Total litter [t ha ⁻¹]	
	Branches		Leaves		Unstrutecture materials		Seeds			
	UF	LF	UF	LF	UF	LF	UF	LF	UF	LF
oct-19	4.38	4.64	5.49	6.63	2.06	1.99	0.27	0.06	12.2	13.3
nov-19	4.42	3.82	3.54	3.90	1.97	3.50	0.43	0.09	10.4	11.3
dec-19	3.63	2.12	1.32	1.80	2.57	1.88	0.25	0.07	7.8	5.9
jan-20	4.19	3.22	1.79	3.20	2.22	1.57	0.15	0.53	8.3	8.5
feb-20	4.43	2.96	2.04	1.70	2.24	1.59	0.28	0.30	9.0	6.6
mar-20	4.15	4.44	1.14	1.59	2.00	1.36	0.09	0.56	7.4	8.0
apr-20	2.35	2.58	0.75	1.25	1.42	0.96	0.13	0.10	4.6	4.9
may-20	1.65	2.01	1.04	1.49	0.95	1.53	0.12	0.24	3.8	5.3
jun-20	2.40	1.79	1.66	2.64	0.98	1.50	0.93	0.02	6.0	5.9
jul-20	2.69	4.10	3.91	3.70	0.89	0.86	0.00	0.00	7.5	8.7
aug-20	1.66	1.72	4.36	3.79	0.33	0.36	0.02	0.00	6.4	5.9
sep-20	1.99	1.75	3.50	3.19	0.73	0.74	0.00	0.18	6.2	5.9
oct-20	2.32	2.61	3.08	2.53	1.31	1.58	0.18	0.00	6.9	6.7
Total	40.26	37.76	33.62	37.41	19.67	19.42	2.85	2.15	96.4	96.7
Min	0.75	1.25	1.65	1.72	0.33	0.36	0.00	0.00	3.8	4.9
Max	5.49	6.63	4.43	4.64	2.57	3.50	0.93	0.56	12.2	13.3
Mean	2.59	2.88	3.10	2.90	1.51	1.49	0.22	0.17	7.4	7.4
SD	1.49	1.47	1.12	1.05	0.70	0.76	0.25	0.19	2.3	2.5
Cv (%)	57.5	50.9	36.0	36.3	46.5	51.1	112.8	116.6	30.4	33.5
Rainy	6.3	6.0	5.4	5.4	3.4	3.4	0.4	0.2	15.4	15.1
Dry	2.2	2.3	3.4	3.3	0.7	0.9	0.2	0.1	6.5	6.6

Table S5. Effective litter water holding capacity [EWC, %], water holding capacity [WHC, %], litter effective water-retention capacity [W_{eff} , t ha⁻¹], maximum retention capacity [W_{max} , t ha⁻¹] and water content [WC, g_{water} kg_{litter}⁻¹] for unlogged (UL) and logged (L) at Jamari National Forest, Rondônia, Brazil.

Month	EWC		WHC		W_{eff}		W_{max}		WC	
	[%]		[%]		[t ha ⁻¹]		[t ha ⁻¹]		[g _{water} kg _{litter} ⁻¹]	
	UF	LF	UF	LF	UF	LF	UF	LF	UF	LF
Oct-19	41.8	37.9	208.7	172.1	16.5	14.4	25.5	22.9	418	379
Nov-19	52.1	47.0	248.4	254.2	16.5	19.1	25.7	28.7	521	470
Dec-19	48.7	47.8	253.6	284.4	13.0	11.4	19.7	16.7	487	478
Jan-20	56.8	62.4	267.4	280.5	14.2	15.0	22.3	23.9	568	624
Feb-20	63.2	69.6	243.3	332.2	12.9	13.9	21.9	21.8	632	696
Mar-20	60.1	54.9	257.6	226.4	11.7	10.9	19.0	18.0	601	549
Apr-20	63.4	62.4	270.5	266.6	7.7	8.0	12.6	13.0	634	624

May-20	46.9	45.8	258.5	225.8	6.5	7.7	9.7	11.9	469	458
Jun-20	37.3	45.1	170.9	217.5	6.4	8.3	10.2	12.9	373	451
Jul-20	16.2	17.6	162.6	146.2	9.1	9.2	12.2	12.7	162	176
Aug-20	17.6	23.1	153.0	140.4	7.2	5.6	9.8	8.2	176	231
Sep-20	40.7	40.7	183.7	160.2	7.2	5.6	11.4	9.4	407	407
Oct-20	40.0	49.0	187.4	207.4	8.2	8.5	12.9	13.9	400	490
Mean	48.7	49.3	220.8	221.3	10.3	10.3	16.3	16.7	450	464
SD	61.8	54.2	43.7	58.7	3.7	4.0	1.0	1.5	153	147
Rainy	53.8	54.1	239.7	244.1	12.5	12.5	20.1	20.6	533	539
Dry	31.9	35.0	178.7	174.4	7.2	7.2	11.1	11.2	317	345