

SUPPLEMENTARY FILES

Table S1. Variáveis investigadas na Amazon basin calculadas a partir de produtos orbitais, com destaque para os anos de ocorrência de El Niño. Dados relacionados com a média anual de todos os pixels para toda a bacia para a variável Rainfall (mm year⁻¹) e Standardized Precipitation Index (SPI), realizado a soma dos valores a cada 12 meses. As variáveis Gross Primary Productivity (GPP, kg C m⁻² year⁻¹) e Fire Foci (counts) foram somadas para a bacia em cada ano estudado; enquanto a variável Emissions (Tg C year⁻¹) foram somadas em cada ano para as áreas que ocorreram incêndios dentro da Amazon Basin.

Year	SPI	Rainfall	GPP	Fire Foci	Emissions
2001	0.378076	2148.7807	53322.26	64353	81.743
2002	-0.30498	2097.0475	55939.27	266159	160.8072
2003	-0.53697	2119.1877	57069.46	309449	164.7995
2004	0.151269	2142.1887	58032.2	423351	262.2706
2005	-2.04784	2104.0864	58298.57	411618	292.3546
2006	1.018487	2254.8295	57125.41	265284	139.8303
2007	0.721868	2196.6832	57503.32	357389	275.6538
2008	1.276322	2250.885	55246.54	201972	110.0371
2009	1.950633	2272.4623	57067.93	134925	53.3679
2010	-1.84662	2082.7564	57284.74	342801	332.9607
2011	2.12844	2272.1908	55592.14	143214	79.4211
2012	2.126909	2219.5083	56920.19	166232	129.4267
2013	4.31007	2377.7192	57347.2	106668	60.8827
2014	2.232915	2301.6217	57364.03	143193	105.6213
2015	-2.84071	1975.7426	59092.35	176128	146.6313
2016	0.772055	2170.3959	76668.14	202065	163.241
2017	2.578623	2347.0219	59575.98	201669	140.5988
2018	1.512612	2284.7531	60252.15	154038	98.9184
2019	0.954705	1704.0708	42335.06	205871	110.0371

Table S2. Size of areas, number of polygons and relative percentage of each country with fires within the Amazon Basin.

Burned Areas in the Amazon Basin																																		
Year	BRAZIL				BOLIVIA				COLOMBIA				ECUADOR				GUYANA				PERU				SURINAME				VENEZUELA				Total Polygons	Total Area Km²
	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%		
2001	8,635	71.3%	27,528.29	62.9%	3,195	26.4%	15,423.63	35.2%	158	1.3%	598.69	1.4%	1	0.0%	0.25	0.0%	47	0.4%	76.25	0.2%	50	0.4%	58.14	0.1%	10	0.1%	75.17	0.2%	12	0.1%	7.72	0.0%	12,108	43,768.14
2002	17,869	67.2%	46,092.12	55.8%	8,261	31.1%	35,434.18	42.9%	109	0.4%	214.71	0.3%	1	0.0%	0.25	0.0%	79	0.3%	138.84	0.2%	250	0.9%	289.07	0.4%	10	0.0%	353.58	0.4%	7	0.0%	12.40	0.0%	26,586	82,535.15
2003	16,680	67.7%	41,550.89	60.4%	6,860	27.8%	25,717.75	37.4%	165	0.7%	353.21	0.5%	4	0.0%	8.69	0.0%	94	0.4%	180.28	0.3%	820	3.3%	880.14	1.3%	9	0.0%	49.84	0.1%	9	0.0%	18.11	0.0%	24,641	68,758.91
2004	20,471	69.8%	53,682.10	47.4%	8,240	28.1%	54,835.20	48.4%	1	0.0%	3,590.47	3.2%	16	0.1%	8.95	0.0%	181	0.6%	389.38	0.3%	398	1.4%	343.65	0.3%	20	0.1%	315.09	0.3%	9	0.0%	17.87	0.0%	29,336	113,182.70
2005	18,060	67.7%	56,130.00	51.3%	6,637	24.9%	49,884.30	45.6%	206	0.8%	373.81	0.3%	20	0.1%	32.99	0.0%	72	0.3%	210.84	0.2%	1,653	6.2%	2,678.55	2.4%	6	0.0%	23.67	0.0%	5	0.0%	6.94	0.0%	26,659	109,341.10
2006	12,823	64.8%	35,471.20	47.7%	5,695	28.8%	37,191.20	50.0%	538	2.7%	597.01	0.8%	13	0.1%	9.42	0.0%	79	0.4%	220.31	0.3%	590	3.0%	696.03	0.9%	30	0.2%	208.00	0.3%	12	0.1%	5.94	0.0%	19,780	74,399.11
2007	16,957	65.8%	67,752.54	62.9%	6,968	27.0%	35,921.17	33.3%	878	3.4%	2,731.50	2.5%	8	0.0%	3.17	0.0%	93	0.4%	229.02	0.2%	851	3.3%	1,083.18	1.0%	8	0.0%	13.66	0.0%	19	0.1%	48.12	0.0%	25,782	107,782.36
2008	9,395	58.7%	31,536.67	53.0%	5,639	35.2%	26,148.27	43.9%	428	2.7%	1,051.02	1.8%	2	0.0%	0.50	0.0%	58	0.4%	147.33	0.2%	476	3.0%	591.02	1.0%	10	0.1%	48.35	0.1%	2	0.0%	1.23	0.0%	16,010	59,524.39
2009	7,902	57.5%	75,152.00	68.7%	4,817	35.0%	29,111.00	26.6%	416	3.0%	523.00	0.5%	11	0.1%	8.00	0.0%	128	0.9%	227.00	0.2%	437	3.2%	392.00	0.4%	32	0.2%	4,004.00	3.7%	4	0.0%	5.00	0.0%	13,747	109,422.00
2010	13,066	52.8%	71,614.37	47.2%	10,086	40.7%	77,413.05	51.0%	157	0.6%	528.35	0.3%	17	0.1%	12.91	0.0%	38	0.2%	115.80	0.1%	1,395	5.6%	1,991.08	1.3%	2	0.0%	2.87	0.0%	6	0.0%	8.93	0.0%	24,767	151,687.36
2011	5,275	51.0%	21,308.37	39.3%	4,172	40.3%	31,195.40	57.5%	492	4.8%	1,034.15	1.9%	2	0.0%	0.74	0.0%	94	0.9%	227.40	0.4%	297	2.9%	336.85	0.6%	9	0.1%	135.30	0.2%	10	0.1%	7.67	0.0%	10,351	54,245.88
2012	7,840	62.2%	31,189.07	57.7%	3,322	26.4%	20,751.73	38.4%	307	2.4%	441.61	0.8%	5	0.0%	16.39	0.0%	119	0.9%	230.65	0.4%	985	7.8%	1,106.85	2.0%	10	0.1%	321.39	0.6%	10	0.1%	12.62	0.0%	12,598	54,070.31
2013	6,295	59.6%	17,386.12	50.5%	3,152	29.9%	15,690.11	45.6%	418	4.0%	487.79	1.4%	3	0.0%	1.09	0.0%	130	1.2%	327.89	1.0%	535	5.1%	485.41	1.4%	15	0.1%	35.10	0.1%	10	0.1%	15.04	0.0%	10,558	34,428.56
2014	8,455	63.3%	28,728.83	69.0%	3,784	28.3%	10,679.93	25.6%	518	3.9%	1,050.75	2.5%	3	0.0%	2.48	0.0%	120	0.9%	371.53	0.9%	468	3.5%	502.94	1.2%	11	0.1%	298.95	0.7%	5	0.0%	4.45	0.0%	13,364	41,639.86
2015	13,042	69.8%	36,323.59	63.2%	4,556	24.4%	19,523.46	34.0%	251	1.3%	271.07	0.5%	8	0.0%	9.68	0.0%	180	1.0%	485.29	0.8%	604	3.2%	653.65	1.1%	17	0.1%	206.75	0.4%	17	0.1%	23.14	0.0%	18,675	57,496.63
2016	10,206	58.0%	34,799.45	37.1%	5,725	32.5%	32,942.52	35.2%	617	3.5%	747.72	0.8%	14	0.1%	8.67	0.0%	73	0.4%	230.92	0.2%	939	5.3%	24,882.00	26.6%	13	0.1%	55.50	0.1%	6	0.0%	19.60	0.0%	17,593	93,686.38
2017	11,356	67.3%	44,912.42	64.6%	4,468	26.5%	22,963.61	33.0%	555	3.3%	639.96	0.9%	3	0.0%	1.99	0.0%	156	0.9%	433.03	0.6%	307	1.8%	355.35	0.5%	17	0.1%	212.57	0.3%	5	0.0%	3.71	0.0%	16,867	69,522.64
2018	8,713	58.2%	21,881.83	50.6%	4,500	30.0%	17,069.40	39.4%	1,055	7.0%	3,564.69	8.2%	2	0.0%	0.50	0.0%	90	0.6%	240.08	0.6%	595	4.0%	474.61	1.1%	15	0.1%	47.90	0.1%	9	0.1%	8.34	0.0%	14,979	43,287.35
2019	7,047	69.5%	30,319.87	67.9%	2,422	23.9%	13,354.36	29.9%	69	0.7%	85.39	0.2%	0	0.0%	0.00	0.0%	72	0.7%	182.06	0.4%	516	5.1%	656.66	1.5%	1	0.0%	0.99	0.0%	13	0.1%	23.91	0.1%	10,140	44,623.24
TOTAL	220,087	63.9%	773,360	54.7%	102,499	29.7%	571,250	40.4%	7,338	2.1%	18,885	1.3%	133	0.0%	127	0.0%	1,903	0.6%	4,664	0.3%	12,166	3.5%	38,457	2.7%	245	0.1%	6,409	0.5%	170	0.0%	251	0.0%	344,541	1,413,402

Table S3. Size of areas, number of polygons and relative percentage with fires within indigenous lands (IL's) that are in the countries inserted in Amazon Basin.

Burned Areas in the Indigenous Lands																																		
Year	BRAZIL				BOLIVIA				COLOMBIA				ECUADOR				GUYANA				PERU				SURINAME				VENEZUELA				Total Polygons	Total Area Km²
	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%		
2001	763	48.6 %	7,568.29	66.1 %	758	48.3 %	3,776.99	33.0 %	5	0.3 %	10.42	0.1 %	1	0.1 %	0.25	0.0 %	8	0.5 %	12.98	0.1 %	14	0.9 %	13.39	0.1 %	10	0.6 %	62.14	0.5 %	10	0.6 %	6.31	0.1 %	1,569	11,450.77
2002	1077	36.9 %	9,234.13	55.5 %	1790	61.4 %	7,032.47	42.3 %	8	0.3 %	12.41	0.1 %	0	0.0 %	0.00	0.0 %	13	0.4 %	20.44	0.1 %	14	0.5 %	8.97	0.1 %	9	0.3 %	312.00	1.9 %	4	0.1 %	3.47	0.0 %	2,915	16,623.89
2003	978	38.0 %	8,215.34	57.5 %	1447	56.3 %	5,904.24	41.3 %	9	0.3 %	3.22	0.0 %	0	0.0 %	0.00	0.0 %	34	1.3 %	28.41	0.2 %	89	3.5 %	81.72	0.6 %	7	0.3 %	48.85	0.3 %	8	0.3 %	17.12	0.1 %	2,572	14,298.90
2004	1418	37.5 %	11,915.50	46.4 %	2058	54.5 %	13,074.89	50.9 %	172	4.6 %	318.38	1.2 %	8	0.2 %	3.03	0.0 %	42	1.1 %	40.92	0.2 %	53	1.4 %	38.20	0.1 %	18	0.5 %	253.84	1.0 %	9	0.2 %	17.87	0.1 %	3,778	25,662.63
2005	1298	40.2 %	10,710.70	48.9 %	1631	50.6 %	10,768.50	49.1 %	13	0.4 %	8.31	0.0 %	6	0.2 %	9.77	0.0 %	12	0.4 %	18.12	0.1 %	256	7.9 %	373.50	1.7 %	5	0.2 %	22.47	0.1 %	5	0.2 %	6.59	0.0 %	3,226	21,917.96
2006	1150	46.7 %	8,501.93	51.0 %	1183	48.1 %	7,878.98	47.3 %	19	0.8 %	38.40	0.2 %	2	0.1 %	0.50	0.0 %	10	0.4 %	11.92	0.1 %	64	2.6 %	68.98	0.4 %	25	1.0 %	156.03	0.9 %	9	0.4 %	5.01	0.0 %	2,462	16,661.75
2007	1553	43.3 %	12,379.45	62.5 %	1810	50.5 %	7,147.24	36.1 %	67	1.9 %	99.10	0.5 %	6	0.2 %	1.93	0.0 %	21	0.6 %	22.94	0.1 %	101	2.8 %	94.79	0.5 %	8	0.2 %	10.46	0.1 %	21	0.6 %	47.30	0.2 %	3,587	19,803.21
2008	804	34.7 %	8,688.40	56.2 %	1384	59.7 %	6,372.61	41.2 %	27	1.2 %	59.11	0.4 %	73	3.1 %	230.92	1.5 %	13	0.6 %	55.50	0.4 %	6	0.3 %	19.60	0.1 %	10	0.4 %	38.61	0.2 %	2	0.1 %	0.42	0.0 %	2,319	15,465.17
2009	910	43.6 %	5,748.90	55.1 %	1058	50.7 %	4,181.70	40.1 %	14	0.7 %	34.08	0.3 %	1	0.0 %	1.36	0.0 %	15	0.7 %	11.66	0.1 %	54	2.6 %	33.55	0.3 %	31	1.5 %	211.96	2.0 %	3	0.1 %	211.96	2.0 %	2,086	10,435.17
2010	1585	32.4 %	14,964.75	44.3 %	3061	62.5 %	18,461.26	54.7 %	20	0.4 %	36.64	0.1 %	8	0.2 %	7.46	0.0 %	3	0.1 %	5.46	0.0 %	210	4.3 %	261.85	0.8 %	2	0.0 %	2.87	0.0 %	6	0.1 %	8.93	0.0 %	4,895	33,749.23
2011	895	44.1 %	8,001.02	46.1 %	1051	51.8 %	9,144.71	52.6 %	22	1.1 %	53.61	0.3 %	2	0.1 %	0.36	0.0 %	15	0.7 %	14.34	0.1 %	28	1.4 %	39.86	0.2 %	8	0.4 %	112.68	0.6 %	9	0.4 %	7.42	0.0 %	2,030	17,374.00
2012	994	48.6 %	10,018.77	64.1 %	883	43.2 %	5,396.72	34.5 %	23	1.1 %	22.49	0.1 %	1	0.0 %	0.50	0.0 %	15	0.7 %	18.60	0.1 %	112	5.5 %	83.03	0.5 %	10	0.5 %	83.03	0.5 %	8	0.4 %	11.18	0.1 %	2,046	15,634.32
2013	776	44.5 %	6,013.49	56.3 %	835	47.9 %	4,499.13	42.1 %	24	1.4 %	45.63	0.4 %	0	0.0 %	0.00	0.0 %	14	0.8 %	6.10	0.1 %	71	4.1 %	71.04	0.7 %	15	0.9 %	34.68	0.3 %	9	0.5 %	13.83	0.1 %	1,744	10,683.90
2014	1044	48.7 %	9,485.64	74.6 %	974	45.4 %	2,864.24	22.5 %	39	1.8 %	50.98	0.4 %	0	0.0 %	0.00	0.0 %	14	0.7 %	12.40	0.1 %	59	2.8 %	56.69	0.4 %	11	0.5 %	243.08	1.9 %	4	0.2 %	4.21	0.0 %	2,145	12,717.25
2015	1070	44.5 %	7,993.15	60.5 %	1167	48.6 %	4,873.55	36.9 %	16	0.7 %	15.43	0.1 %	0	0.0 %	0.00	0.0 %	32	1.3 %	38.98	0.3 %	85	3.5 %	84.07	0.6 %	15	0.6 %	179.08	1.4 %	17	0.7 %	22.31	0.2 %	2,402	13,206.57
2016	1109	39.7 %	8,719.74	51.5 %	1432	51.3 %	7,821.98	46.2 %	56	2.0 %	46.26	0.3 %	4	0.1 %	1.38	0.0 %	17	0.6 %	59.28	0.4 %	155	5.6 %	209.55	1.2 %	13	0.5 %	55.50	0.3 %	6	0.2 %	19.35	0.1 %	2,792	16,933.04
2017	1369	50.6 %	10,912.39	60.8 %	1211	44.8 %	6,770.85	37.7 %	33	1.2 %	26.29	0.1 %	1	0.0 %	0.00	0.0 %	26	1.0 %	32.61	0.2 %	43	1.6 %	38.89	0.2 %	16	0.6 %	160.86	0.9 %	5	0.2 %	3.71	0.0 %	2,704	17,945.62
2018	875	37.2 %	5,590.42	54.3 %	1248	53.1 %	4,382.61	42.6 %	66	2.8 %	155.53	1.5 %	0	0.0 %	0.00	0.0 %	20	0.9 %	20.87	0.2 %	119	5.1 %	85.77	0.8 %	15	0.6 %	46.00	0.4 %	9	0.4 %	8.21	0.1 %	2,352	10,289.41
2019	940	56.0 %	6,432.38	67.6 %	579	34.5 %	2,904.98	30.5 %	6	0.4 %	3.18	0.0 %	0	0.0 %	0.00	0.0 %	22	1.3 %	33.63	0.4 %	118	7.0 %	112.26	1.2 %	1	0.1 %	0.99	0.0 %	12	0.7 %	23.66	0.2 %	1,678	9,511.08
TOTAL	20,608	41.8 %	171,094	55.1 %	25,560	51.8 %	133,258	42.9 %	639	1.3 %	1,039	0.3 %	113	0.2 %	257	0.1 %	346	0.7 %	465	0.1 %	1,651	3.3 %	1,776	0.6 %	229	0.5 %	2,035	0.7 %	156	0.3 %	439	0.1 %	49,302	310,363.86

Table S4. Size of areas, number of polygons and relative percentage with fires within conservation units (CU's) that are in the countries inserted in Amazon Basin.

Burned Areas in the Conservation Units																																		
Year	BRAZIL				BOLIVIA				COLOMBIA				ECUADOR				GUYANA				PERU				SURINAME				VENEZUELA				Total Polygons	Total Area Km²
	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%	Nº de Polyg.	%	Area (km²)	%		
2001	279	55.4 %	497.33	25.1 %	116	23.0 %	1,036.53	52.3 %	91	18.1 %	377.61	19.1 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	2	0.4 %	0.49	0.0 %	9	1.8 %	65.13	3.3 %	7	1.4 %	3.19	0.2 %	504	1,980.28
2002	400	61.0 %	819.88	35.9 %	183	27.9 %	1,020.58	44.7 %	56	8.5 %	117.26	5.1 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	4	0.6 %	0.97	0.0 %	9	1.4 %	315.03	13.8 %	4	0.6 %	9.19	0.4 %	656	2,282.91
2003	438	56.7 %	1,605.36	50.4 %	230	29.8 %	1,251.85	39.3 %	62	8.0 %	246.46	7.7 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	28	3.6 %	20.24	0.6 %	6	0.8 %	46.30	1.5 %	9	1.2 %	18.11	0.6 %	773	3,188.32
2004	664	61.7 %	1,971.16	38.7 %	221	20.5 %	1,511.77	29.7 %	160	14.9 %	1,316.96	25.9 %	2	0.2 %	0.50	0.0 %	0	0.0 %	0.00	0.0 %	8	0.7 %	10.46	0.2 %	18	1.7 %	269.38	5.3 %	3	0.3 %	9.50	0.2 %	1,076	5,089.73
2005	656	60.7 %	1,954.19	56.1 %	242	22.4 %	1,209.64	34.8 %	96	8.9 %	279.57	8.0 %	3	0.3 %	6.45	0.2 %	0	0.0 %	0.00	0.0 %	78	7.2 %	6.45	0.2 %	4	0.4 %	23.03	0.7 %	2	0.2 %	0.99	0.0 %	1,081	3,480.32
2006	503	58.1 %	1,524.81	57.9 %	194	22.4 %	698.60	26.5 %	112	12.9 %	199.86	7.6 %	4	0.5 %	0.99	0.0 %	0	0.0 %	0.00	0.0 %	20	2.3 %	30.06	1.1 %	26	3.0 %	178.03	6.8 %	7	0.8 %	2.22	0.1 %	866	2,634.57
2007	507	52.3 %	1,263.84	34.7 %	267	27.5 %	1,190.98	32.7 %	152	15.7 %	1,112.38	30.5 %	1	0.1 %	0.25	0.0 %	0	0.0 %	0.00	0.0 %	21	2.2 %	20.27	0.6 %	7	0.7 %	12.15	0.3 %	15	1.5 %	42.33	1.2 %	970	3,642.20
2008	282	47.0 %	864.54	39.0 %	190	31.7 %	897.46	40.5 %	105	17.5 %	412.82	18.6 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	13	2.2 %	10.59	0.5 %	10	1.7 %	30.51	1.4 %	0	0.0 %	0	0.0 %	600	2,215.92
2009	260	49.5 %	545.03	12.4 %	99	18.9 %	578.14	13.1 %	142	27.0 %	1,636.92	37.2 %	3	0.6 %	0.76	0.0 %	0	0.0 %	0.00	0.0 %	2	0.4 %	0.48	0.0 %	19	3.6 %	1,636.92	37.2 %	0	0.0 %	0.00	0.0 %	525	4,398.25
2010	575	53.8 %	2,690.78	44.1 %	399	37.3 %	2,979.76	48.8 %	48	4.5 %	372.77	6.1 %	1	0.1 %	0.50	0.0 %	0	0.0 %	0.00	0.0 %	40	3.7 %	51.82	0.8 %	2	0.2 %	1.37	0.0 %	4	0.4 %	8.19	0.1 %	1,069	6,105.18
2011	236	45.3 %	1,324.75	52.5 %	154	29.6 %	852.40	33.8 %	113	21.7 %	220.34	8.7 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	7	1.3 %	2.74	0.1 %	8	1.5 %	122.67	4.9 %	3	0.6 %	0.53	0.0 %	521	2,523.41
2012	303	55.8 %	920.91	32.2 %	130	23.9 %	1,401.49	49.0 %	67	12.3 %	219.71	7.7 %	2	0.4 %	0.92	0.0 %	0	0.0 %	0.00	0.0 %	25	4.6 %	19.61	0.7 %	9	1.7 %	289.96	10.1 %	7	1.3 %	5.07	0.2 %	543	2,857.67
2013	149	45.2 %	384.55	27.7 %	82	24.8 %	781.42	56.3 %	66	20.0 %	187.75	13.5 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	17	5.2 %	7.05	0.5 %	12	3.6 %	24.77	1.8 %	4	1.2 %	3.23	0.2 %	330	1,388.77
2014	309	59.9 %	1,409.26	55.6 %	58	11.2 %	433.81	17.1 %	127	24.6 %	409.76	16.2 %	1	0.2 %	1.24	0.0 %	0	0.0 %	0.00	0.0 %	10	1.9 %	8.02	0.3 %	9	1.7 %	270.01	10.7 %	2	0.4 %	0.48	0.0 %	516	2,532.58
2015	516	66.4 %	1,268.99	44.8 %	162	20.8 %	1,286.85	45.4 %	54	6.9 %	87.27	3.1 %	2	0.3 %	0.09	0.0 %	0	0.0 %	0.00	0.0 %	20	2.6 %	0.09	0.0 %	15	1.9 %	173.92	6.1 %	8	1.0 %	16.18	0.6 %	777	2,833.39
2016	426	56.3 %	1,600.49	45.8 %	188	24.9 %	1,492.78	42.7 %	98	13.0 %	282.52	8.1 %	2	0.3 %	0.85	0.0 %	0	0.0 %	0.00	0.0 %	27	3.6 %	51.03	1.5 %	11	1.5 %	52.61	1.5 %	4	0.5 %	14.13	0.4 %	756	3,494.41
2017	591	65.8 %	1,244.21	51.9 %	165	18.4 %	755.04	31.5 %	115	12.8 %	185.05	7.7 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	8	0.9 %	4.63	0.2 %	16	1.8 %	204.34	8.5 %	3	0.3 %	1.88	0.1 %	898	2,395.15
2018	394	55.1 %	798.79	32.0 %	126	17.6 %	833.94	33.4 %	167	23.4 %	798.79	32.0 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	13	1.8 %	18.88	0.8 %	15	2.1 %	47.90	1.9 %	0	0.0 %	0.00	0.0 %	715	2,498.30
2019	308	72.3 %	1,244.34	87.6 %	49	11.5 %	88.16	6.2 %	38	8.9 %	56.80	4.0 %	0	0.0 %	0.00	0.0 %	0	0.0 %	0.00	0.0 %	22	5.2 %	9.66	0.7 %	0	0.0 %	0.00	0.0 %	9	2.1 %	22.33	1.6 %	426	1,421.29
TOTAL	7,796	57.3 %	23,933	42.0 %	3,255	23.9 %	20,301	35.6 %	1,869	13.7 %	8,521	15.0 %	21	0.2 %	13	0.0 %	0	0.0 %	0	0.0 %	365	2.7 %	274	0.5 %	205	1.5 %	3,764	6.6 %	91	0.7 %	158	0.3 %	13,602	56,962.65

Table S5. Multiple regression models for the emissions as a function of the fire foci, rainfall, SPI and gross primary production (GPP).

Coefficients	Estimate	Std. Error	p-value
Intercept	6.815e+01	1.486e+02	0.653
Fire foci	6.147e-04	9.890e-05	<0.001
Rainfall	-4.888e-02	8.484e-02	0.574
SPI	-6.849	7.574	0.381
GPP	1.050e-03	1.713e-03	0.550
Multiple $R^2 = 0.8473$		F-statistic = 19.42*	

*: significant by F-test.

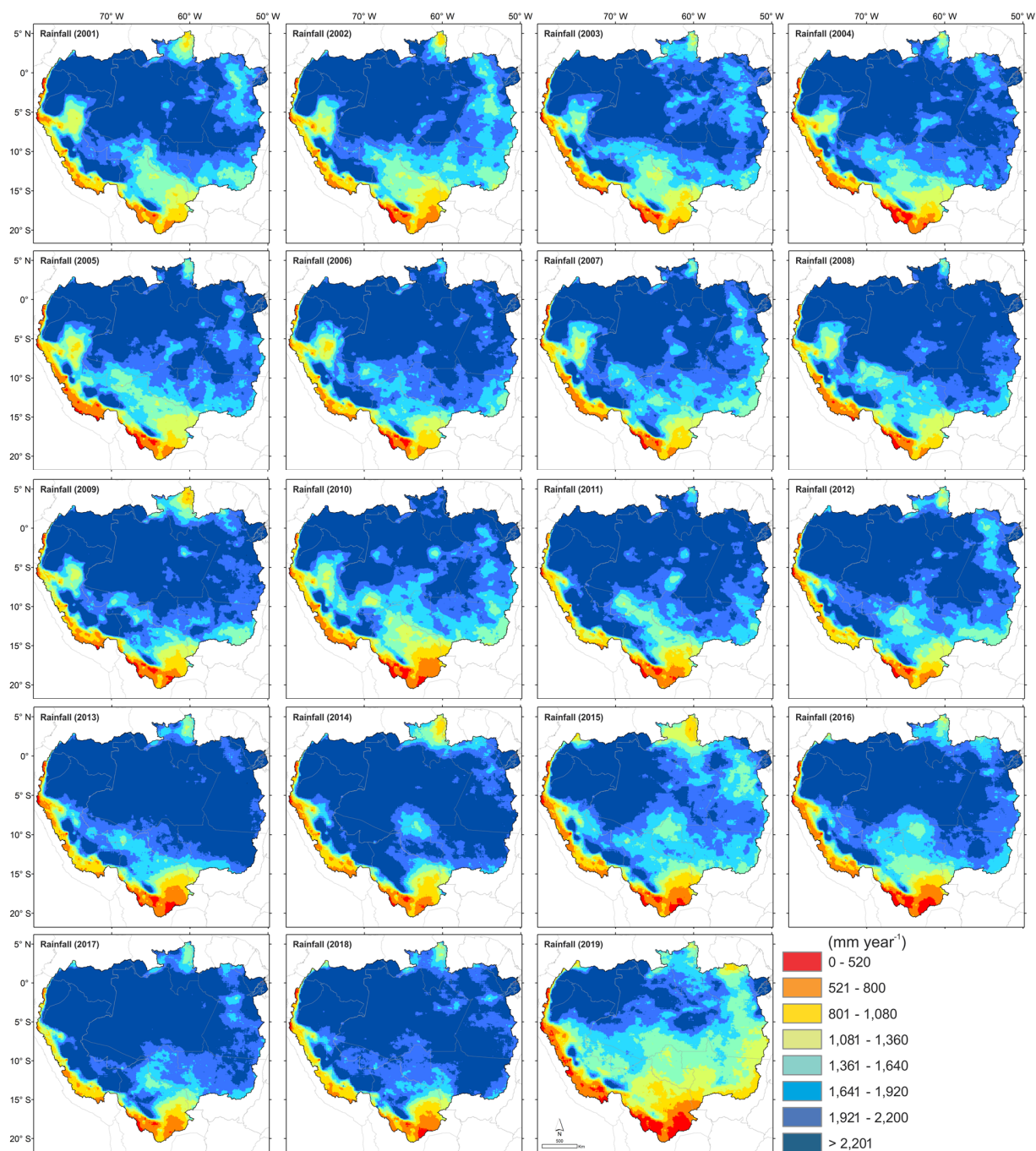


Figure S1. Measurement of annual Rainfall (mm year⁻¹) of the study area between the years 2001-2019.

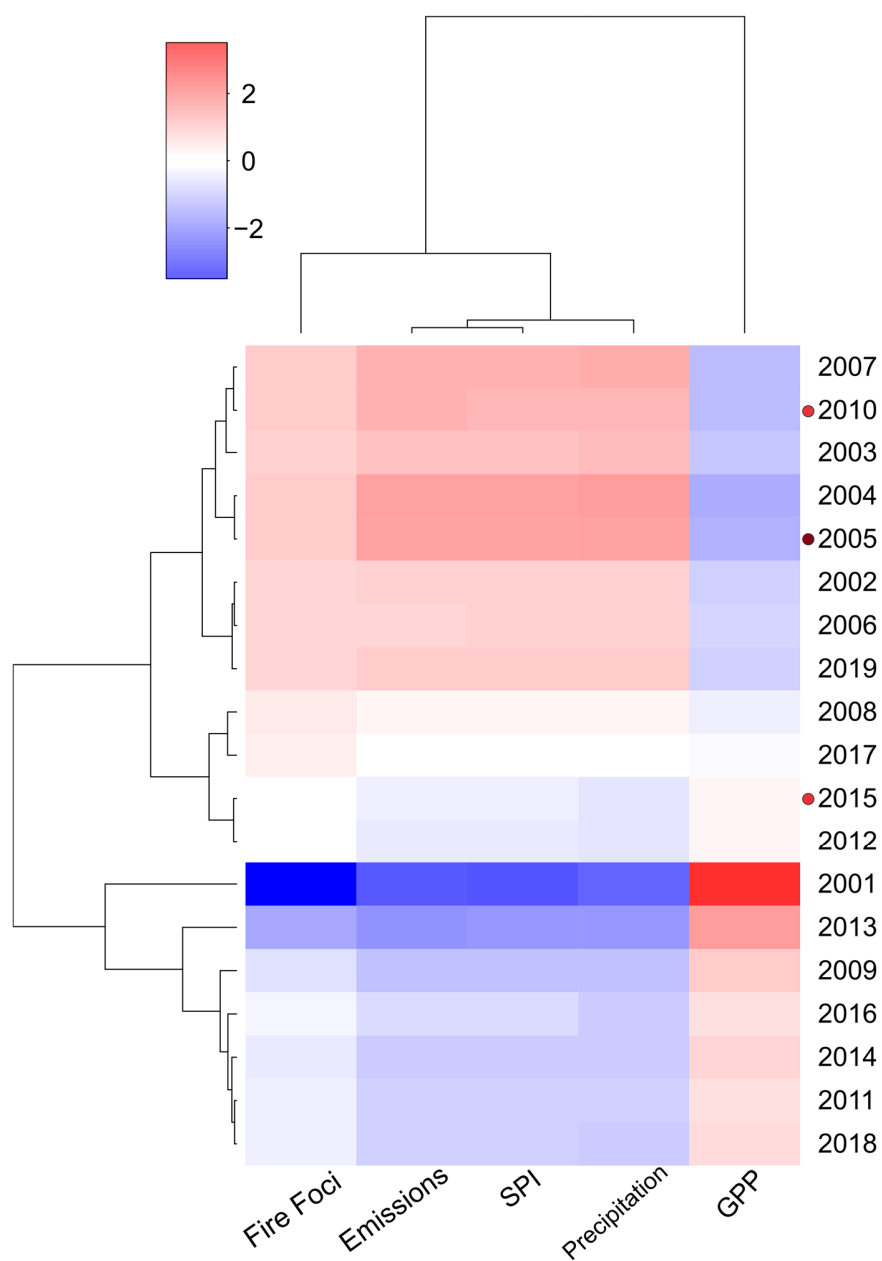


Figure S2. Pearson-cluster Correlation (red dots indicate that there were El Niño in the year (2010 and 2015) and dark red dots indicate that there were sea surface temperature (SST) anomalies in the North tropical Atlantic (2005)).

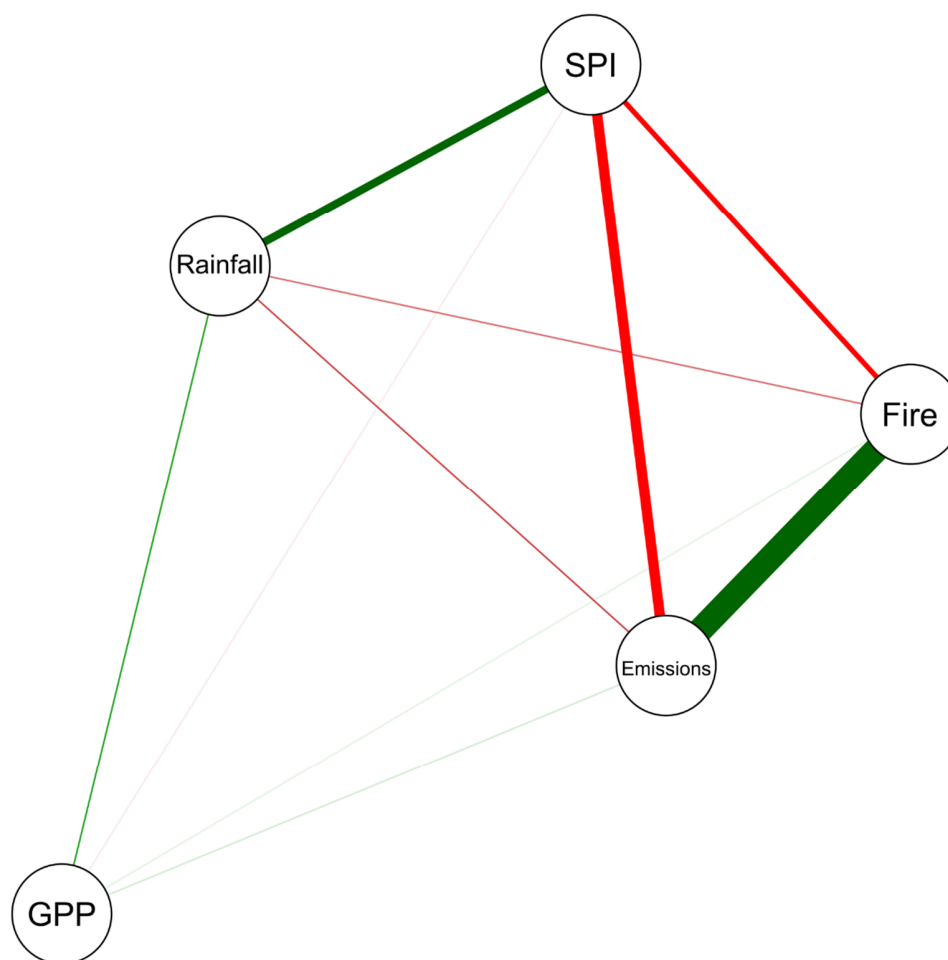


Figure S3. Network Pearson correlation between the variables. Positive correlations were linked by green dashes, while negative correlations were linked by red dashes. The thickness of the trace is proportional to the magnitude of the correlation.

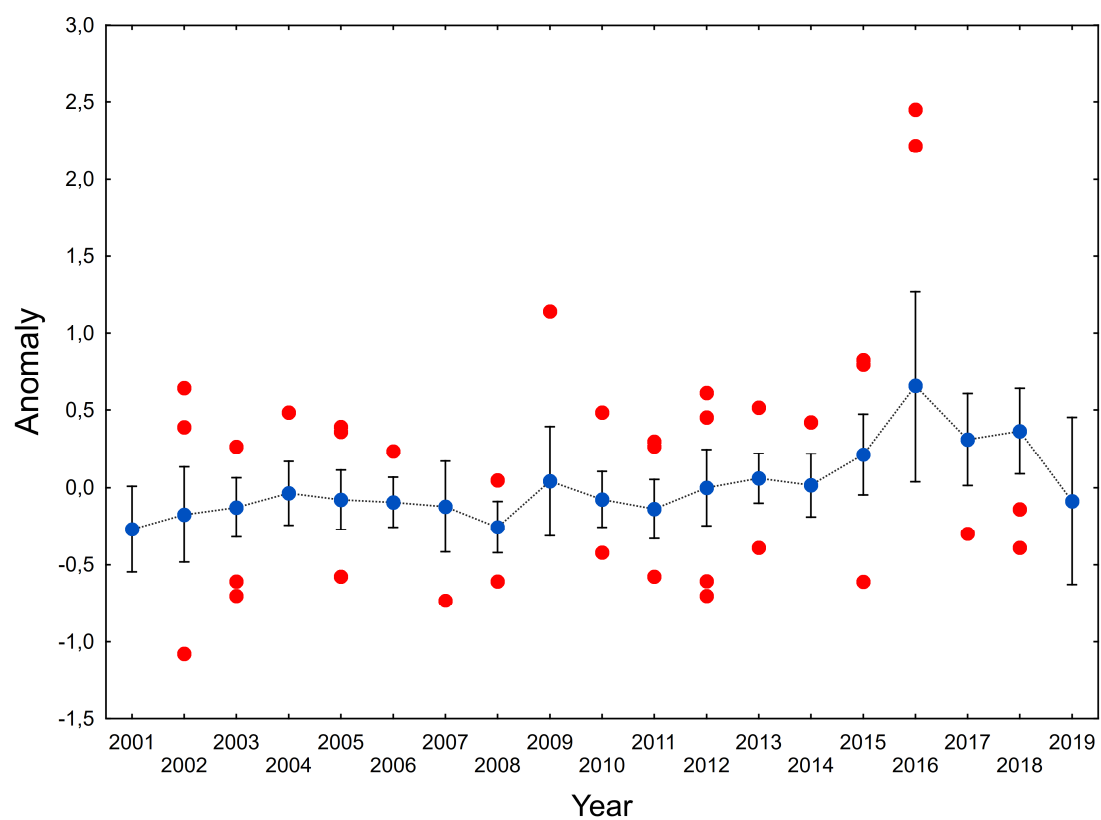


Figure S4. Time series (2001 to 2019) of the anomaly variation between SPI (Standardized Precipitation Index) calculated from long-time rainfall and the sum of GPP (Gross Primary Production) values for the Amazon basin, indicating its standard deviation and outliers (red dots).