

**Table S1: Database of Amazon tributaries**

Station	River	Drainage area (10 <sup>3</sup> km <sup>2</sup> )	Qw (m <sup>3</sup> /s)	Qs (10 <sup>6</sup> m <sup>3</sup> /yr)	Slope (-) (×10 <sup>-5</sup> )	Floodplain width (km)	Sinuosity (-)	Alluvial length (km)	Diffusivity (10 <sup>6</sup> m <sup>2</sup> /yr)	Diffusion time (10 <sup>3</sup> yr)	Propagation length (km)	Setting
Palmeiras do Javari	Javari	12	640	0.46	8	5	1.7	1000	6.92	144.4	438	Foreland
Teresina	Solimoes	980	44000	151	3	15	1.2	4900	473.70	50.7	6279	Andes
Sao Paulo de Olivenca	Solimoes	990	47000	122	3	20	1.2	4900	383.86	62.5	4880	Andes
Santo Antonio do Ica	Solimoes	1100	55000	167	3	30	1.2	4900	328.22	73.2	4668	Andes
Cruzeiro do Sul	Jurua	39	910	4.44	10	12	1.5	2600	4.83	1400.7	737	Foreland
Eirunepe—Montante	Jurua	77	1800	3.16	5	15	2.2	2600	10.95	617.1	953	Foreland
Gaviao	Jurua	160	4800	12.3	4	20	2.0	2600	29.12	232.1	1734	Foreland
Vila Bittencourt	Japura	197	13720	9.91	5	8	1.2	2000	198.30	20.2	1706	Andes
Itapeua	Solimoes	1800	84000	115	3	20	1.1	4900	853.37	28.1	4543	Andes
Rio Branco	Acre	23	330	1.38	9	6	1.3	570	1.73	187.5	571	Foreland
Seringal Fortaleza	Purus	150	3700	25.3	5	20	2.1	3000	23.03	390.9	2281	Foreland
Labrea	Purus	220	5500	16.6	4	20	2.1	3000	38.30	235.0	2064	Foreland
Bacaba	Cuniua	38	1490	0.52	8	9	1.5	700	12.06	40.6	325	Craton
Aruma—Jusante	Purus	360	11000	6.72	4	25	1.7	3000	67.13	134.1	1058	Foreland
Manacapuru	Solimoes	2100	99000	115	1	30	1.1	4900	418.59	57.4	6419	Andes
Cucui	Negro	62	4840	0.32	3	2	1.1	1900	12.72	283.8	754	Craton
Taraqua	Uaupes	45	2760	0.22	10	3	1.2	560	81.57	3.8	290	Foreland
Jalauaca	Demini	23	530	0.1	10	5	1.5	430	0.46	402.8	170	Foreland
Fe e Esperanca	Mucajai	14	280	0.11	10	3	1.3	140	0.25	77.0	216	Craton
Caracarai	Branco	130	2900	1.12	7	10	1.1	575	1.80	183.4	416	Craton
Pontes e Lacerda	Guapore	3	60	0.02	80	1	1.1	760	0.18	3185.1	45	Craton
Pimenteiras	Guapore	54	530	0.05	6	3	1.3	760	0.51	1124.5	179	Craton
Pedras Negras	Guapore	110	910	0.05	7	8	1.4	760	0.50	1145.9	114	Craton
Guajara-Mirim	Mamore	589	8400	11.8	10	12	1.2	1700	89.56	32.3	1076	Andes
Porto Velho	Madeira	950	19000	96.6	7	10	1.2	3250	303.19	34.8	4178	Andes
Jiparana	Jiparana	33	720	0.27	30	1	1.2	680	5.04	91.8	326	Craton
Prainha (Velha)	Aripuana	109	3380	0.84	20	2	1.2	850	20.91	34.6	497	Craton
Fazenda Vista Alegre	Madeira	1300	31000	76	5	7	1.2	3250	779.04	13.6	5051	Andes
Obidos	Amazonas	4600	170000	171	1	40	1.1	4900	705.87	34.0	6783	Andes
Barragem—Conj. 04	Curua-Una	14	180	0.02	9	1	1.3	460	0.47	453.2	200	Craton