

S1 Table. List of sites used in this study. DBF = Deciduous broadleaf forest, DNF = deciduous needleleaf forest, EBF = evergreen broadleaf forest, ENF = evergreen needleleaf forest, MF = mixed forest, WSA = woody savanna, and SAV = savanna. The PFT and climate classifications used here are coming from the ancillary data files provided by the La Thuile or the FLUXNET2015 datasets (<https://fluxnet.fluxdata.org>).

	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
1	AR-SLu	-33.4648	-66.4598	Temperate	MF	50	-
2	AR-Vir	-28.2395	-56.1886	Temperate	ENF	8	-
3	AU-Ade	-13.0769	131.1178	Tropical	WSA	NA	-
4	AU-ASM	-22.2830	133.2490	Arid	ENF	NA	-
5	AU-Cpr	-34.0021	140.5891	Arid	SAV	NA	-
6	AU-Cum	-33.6133	150.7225	Temperate	EBF	>300	-
7	AU-DaS	-14.1593	131.3881	Tropical	SAV	NA	-
8	AU-Dry	-15.2588	132.3706	Tropical	SAV	NA	-
9	AU-Gin	-31.3764	115.7138	Temperate	WSA	NA	-
10	AU-GWW	-30.1913	120.6541	Arid	SAV	NA	-
11	AU-How	-12.4943	131.1523	Tropical	WSA	110	-
12	AU-Lox	-34.4704	140.6551	Arid	DBF	NA	-
13	AU-RDF	-14.5636	132.4776	Tropical	WSA	NA	-
14	AU-Rob	-17.1175	145.6301	Temperate	EBF	198	-
15	AU-Tum	-35.6566	148.1517	Temperate	EBF	83	[27]
16	AU-Wac	-37.4259	145.1878	Temperate	EBF	>300	-
17	AU-Whr	-36.6732	145.0294	Temperate	EBF	NA	-
18	AU-Wom	-37.4222	144.0944	Temperate	EBF	32	-
19	BE-Bra	51.3092	4.5206	Temperate	MF	78	[21]
20	BE-Jal	50.5639	6.0733	Temperate	MF	8	-
21	BE-Vie	50.3051	5.9981	Temperate	MF	94	[4]
22	BR-Ban	-9.8244	-50.1591	Tropical	EBF	>300	[19]
23	BR-Cax	-1.7197	-51.4590	Tropical	EBF	96	[14]
24	BR-Ji2	-10.0832	-61.9309	Tropical	EBF	>300	[88]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
25	BR-Ma2	-2.6091	-60.2093	Tropical	EBF	>300	[3]
26	BR-Sa1	-2.8567	-54.9589	Tropical	EBF	>300	[74]
27	BR-Sa3	-3.0180	-54.9714	Tropical	EBF	>300	[74]
28	BR-Sp1	-21.6195	-47.6499	Tropical	WSA	NA	-
29	BW-Ma1	-19.9155	23.5605	Arid	WSA	NA	-
30	CA-Ca1	49.8672	-125.3340	Temperate	ENF	60	[60]
31	CA-Ca2	49.8705	-125.2910	Temperate	ENF	3	[41]
32	CA-Ca3	49.5346	-124.9000	Temperate	ENF	16	[44]
33	CA-Gro	48.2167	-82.1556	Boreal	MF	78	[66]
34	CA-Man	55.8796	-98.4808	Boreal	ENF	161	[46]
35	CA-NS1	55.8792	-98.4839	Boreal	ENF	154	[32]
36	CA-NS2	55.9058	-98.5247	Boreal	ENF	73	[32]
37	CA-NS3	55.9117	-98.3822	Boreal	ENF	39	[32]
38	CA-NS4	55.9144	-98.3806	Boreal	ENF	39	[32]
39	CA-NS5	55.8631	-98.4850	Boreal	ENF	23	[32]
40	CA-Oas	53.6289	-106.1978	Boreal	DBF	80	[10]
41	CA-Obs	53.9872	-105.1178	Boreal	ENF	112	[43]
42	CA-Ojp	53.9163	-104.6920	Boreal	ENF	88	[5]
43	CA-Qcu	49.2671	-74.0365	Boreal	ENF	4	[28]
44	CA-Qfo	49.6925	-74.3421	Boreal	ENF	102	[7]
45	CA-SF1	54.4850	-105.8176	Boreal	ENF	28	-
46	CA-SF2	54.2539	-105.8775	Boreal	ENF	14	-
47	CA-SJ1	53.9080	-104.6560	Boreal	ENF	10	[40]
48	CA-SJ2	53.9450	-104.6490	Boreal	ENF	2	[18]
49	CA-SJ3	53.8758	-104.6450	Boreal	ENF	30	[33]
50	CA-TP1	42.6609	-80.5595	Boreal	ENF	9	[2]
51	CA-TP2	42.7744	-80.4588	Boreal	ENF	73	[2]
52	CA-TP3	42.7068	-80.3483	Boreal	ENF	37	[2]
53	CA-TP4	42.7102	-80.3574	Boreal	ENF	70	[2]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
54	CA-TPD	42.6353	-80.5577	Boreal	DBF	98	[2]
55	CG-Hin	-4.6811	12.0036	Tropical	EBF	NA	-
56	CG-Kis	-4.7914	11.9822	Tropical	EBF	NA	-
57	CG-Tch	-4.2892	11.6564	Tropical	SAV	NA	-
58	CH-Dav	46.8153	9.8559	Temperate	ENF	222	[92]
59	CH-Lae	47.4781	8.3650	Temperate	MF	184	[26]
60	CN-Anh	33.0000	117.0000	Temperate	DBF	13	-
61	CN-Bed	39.5306	116.2520	Boreal	EBF	12	-
62	CN-Cha	42.4025	128.0958	Boreal	MF	>300	[37]
63	CN-Din	23.1733	112.5361	Temperate	EBF	96	[91]
64	CN-Hny	29.3100	112.5100	Temperate	DBF	2	-
65	CN-Ku1	40.5383	108.6940	Arid	EBF	5	-
66	CN-Qia	26.7414	115.0581	Temperate	ENF	19	-
67	CZ-BK1	49.5021	18.5369	Boreal	ENF	31	[69]
68	DE-Bay	50.1419	11.8669	Temperate	ENF	54	[85]
69	DE-Hai	51.0792	10.4530	Temperate	DBF	254	[47]
70	DE-Har	47.9344	7.6010	Temperate	ENF	42	[9]
71	DE-Lkb	49.0996	13.3047	Temperate	ENF	2	[51]
72	DE-Lnf	51.3282	10.3678	Temperate	DBF	117	-
73	DE-Meh	51.2753	10.6555	Temperate	MF	2	-
74	DE-Obe	50.7836	13.7196	Temperate	ENF	76	-
75	DE-Tha	50.9636	13.5669	Temperate	ENF	118	[8]
76	DE-Wet	50.4535	11.4575	Temperate	ENF	54	[1]
77	DK-Sor	55.4859	11.6446	Temperate	DBF	85	[67]
78	ES-ES1	39.3460	-0.3188	Temperate	ENF	116	[75]
79	ES-LMa	39.9415	-5.7734	Temperate	SAV	148	-
80	FI-Hyy	61.8475	24.2950	Boreal	ENF	46	[77]
81	FI-Let	60.6418	23.9597	Boreal	ENF	NA	-
82	FI-Sod	67.3619	26.6378	Boreal	ENF	161	[81]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
83	FR-Fon	48.4764	2.7801	Temperate	DBF	150	[56]
84	FR-Hes	48.6742	7.0646	Temperate	DBF	37	[34]
85	FR-LBr	44.7171	-0.7693	Temperate	ENF	34	[6]
86	FR-Pue	43.7414	3.5958	Temperate	EBF	64	[68]
87	GF-Guy	5.2788	-52.9249	Tropical	EBF	>300	[11]
88	GH-Ank	5.2685	-2.6942	Tropical	EBF	NA	-
89	IL-Yat	31.3450	35.0515	Arid	ENF	39	[35]
90	IS-Gun	63.8333	-20.2167	Temperate	DBF	7	-
91	IT-Bon	39.4778	16.5347	Temperate	ENF	36	-
92	IT-CA1	42.3804	12.0266	Temperate	DBF	NA	-
93	IT-CA3	42.3800	12.0222	Temperate	DBF	NA	-
94	IT-Col	41.8494	13.5881	Temperate	DBF	180	[84]
95	IT-Cp2	41.7043	12.3573	Temperate	EBF	63	-
96	IT-Cpz	41.7052	12.3761	Temperate	EBF	56	[82]
97	IT-Isp	45.8126	8.6336	Temperate	DBF	NA	-
98	IT-Lec	43.3046	11.2706	Temperate	EBF	NA	-
99	IT-LMa	45.5813	7.1546	Temperate	DBF	71	[54]
100	IT-Non	44.6898	11.0887	Temperate	MF	10	[62]
101	IT-PT1	45.2009	9.0610	Temperate	DBF	13	[57]
102	IT-Ren	46.5869	11.4337	Boreal	ENF	188	[59]
103	IT-Ro1	42.4081	11.9300	Temperate	DBF	10	[70]
104	IT-Ro2	42.3903	11.9209	Temperate	DBF	19	[80]
105	IT-SR2	43.7320	10.2910	Temperate	ENF	64	-
106	IT-SRo	43.7279	10.2844	Temperate	ENF	54	[15]
107	IT-Vig	45.3167	8.8500	Temperate	DBF	15	-
108	JP-MBF	44.3869	142.3186	Boreal	DBF	NA	-
109	JP-SMF	35.2617	137.0788	Temperate	MF	NA	-
110	JP-Tak	36.1462	137.4230	Boreal	DBF	72	[90]
111	JP-Tef	45.0563	142.1062	Boreal	MF	121	[78]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
112	JP-Tom	42.7395	141.5149	Boreal	MF	48	[38]
113	ML-Kem	15.2237	-1.5662	Arid	DBF	NA	-
114	MY-PSO	2.9730	102.3062	Tropical	EBF	106	[42]
115	NL-Loo	52.1666	5.7436	Temperate	ENF	106	[24]
116	PA-SPn	9.3181	-79.6346	Tropical	DBF	7	-
117	PT-Esp	38.6394	-8.6018	Temperate	EBF	12	-
118	PT-Mi1	38.5407	-8.0004	Temperate	EBF	88	[20]
119	RU-Fyo	56.4615	32.9221	Boreal	ENF	236	[48]
120	RU-SkP	62.2550	129.1680	Boreal	DNF	161	-
121	RU-Zot	60.8008	89.3508	Boreal	ENF	201	[79]
122	SD-Dem	13.2829	30.4783	Arid	SAV	NA	-
123	SE-Abi	68.3624	18.7948	Tundra	DBF	NA	[52]
124	SE-Fla	64.1128	19.4569	Boreal	ENF	37	[85]
125	SE-Nor	60.0865	17.4795	Boreal	ENF	105	[49]
126	SE-Sk1	60.1250	17.9181	Boreal	ENF	2	[29]
127	SE-Sk2	60.1297	17.8401	Boreal	ENF	33	[52]
128	SK-Tat	49.1208	20.1635	Boreal	ENF	0	-
129	SN-Dhr	15.4028	-15.4322	Arid	SAV	NA	-
130	UK-Gri	56.6072	-3.7981	Temperate	ENF	21	[55]
131	UK-Ham	51.1208	-0.8608	Temperate	DBF	64	[89]
132	UK-PL3	51.4500	-1.2667	Temperate	DBF	NA	-
133	US-Bar	44.0646	-71.2881	Boreal	DBF	128	[45]
134	US-Blo	38.8953	-120.6328	Temperate	ENF	13	[30]
135	US-Bn1	63.9198	-145.3780	Boreal	ENF	83	[53]
136	US-Bn2	63.9198	-145.3780	Boreal	DBF	16	[53]
137	US-Dk2	35.9736	-79.1004	Temperate	DBF	98	[25]
138	US-Dk3	35.9782	-79.0942	Temperate	ENF	21	[76]
139	US-Fmf	35.1426	-111.7273	Temperate	ENF	150	-
140	US-FR2	29.9495	-97.9962	Temperate	WSA	NA	-

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
141	US-Fuf	35.0890	-111.7620	Temperate	ENF	101	-
142	US-GBT	41.3658	-106.2397	Boreal	ENF	176	-
143	US-GLE	41.3665	-106.2399	Boreal	ENF	184	-
144	US-Ha1	42.5378	-72.1715	Boreal	DBF	96	[83]
145	US-Ha2	42.5393	-72.1779	Boreal	ENF	91	[83]
146	US-Ho1	45.2041	-68.7402	Boreal	ENF	206	[39]
147	US-Ho2	45.2091	-68.7470	Boreal	ENF	208	[39]
148	US-KS1	28.4583	-80.6709	Temperate	ENF	7	[13]
149	US-LPH	42.5419	-72.1850	Boreal	DBF	98	[12]
150	US-Me1	44.5794	-121.5000	Temperate	ENF	2	[50]
151	US-Me2	44.4523	-121.5574	Temperate	ENF	94	[50]
152	US-Me3	44.3154	-121.6078	Temperate	ENF	20	[87]
153	US-Me4	44.4992	-121.6224	Temperate	ENF	24	[50]
154	US-Me5	44.4372	-121.5668	Temperate	ENF	22	[50]
155	US-Me6	44.3233	-121.6078	Temperate	ENF	22	[73]
156	US-MMS	39.3232	-86.4131	Temperate	DBF	95	[71]
157	US-MOz	38.7441	-92.2000	Temperate	DBF	78	[36]
158	US-NC2	35.8031	-76.6679	Temperate	ENF	14	[64]
159	US-NR1	40.0329	-105.5464	Boreal	ENF	110	[58]
160	US-Oho	41.5545	-83.8438	Boreal	DBF	50	[65]
161	US-PFa	45.9459	-90.2723	Boreal	MF	150	[22]
162	US-Prr	65.1237	-147.4876	Boreal	ENF	98	[61]
163	US-SP1	29.7381	-82.2188	Temperate	ENF	63	[16]
164	US-SP2	29.7648	-82.2448	Temperate	ENF	4	[16]
165	US-SP3	29.7548	-82.1633	Temperate	ENF	12	[16]
166	US-SP4	29.8028	-82.2031	Temperate	ENF	0	[16]
167	US-SRM	31.8214	-110.8661	Arid	WSA	201	-
168	US-Syv	46.2420	-89.3477	Boreal	MF	>300	[23]
169	US-Ton	38.4316	-120.9660	Temperate	WSA	NA	-

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
170	US-UMB	45.5598	-84.7138	Boreal	DBF	93	[31]
171	US-UMd	45.5625	-84.6975	Boreal	DBF	90	-
172	US-WBW	35.9588	-84.2874	Temperate	DBF	110	[86]
173	US-WCr	45.8059	-90.0799	Boreal	DBF	96	[23]
174	US-Wi0	46.6188	-91.0814	Boreal	ENF	7	[63]
175	US-Wi1	46.7305	-91.2329	Boreal	DBF	15	[63]
176	US-Wi3	46.6347	-91.0987	Boreal	DBF	66	[63]
177	US-Wi4	46.7393	-91.1663	Boreal	ENF	66	[63]
178	US-Wi5	46.6531	-91.0858	Boreal	ENF	9	[63]
179	US-Wi8	46.7223	-91.2524	Boreal	DBF	2	[63]
180	US-Wi9	46.6188	-91.0814	Boreal	ENF	16	[63]
181	US-Wrc	45.8205	-121.9520	Temperate	ENF	>300	[17]
182	VU-Coc	-15.4427	167.1920	Tropical	EBF	20	[72]
183	ZA-Kru	-25.0197	31.4969	Temperate	SAV	NA	-
184	ZA-Map	-23.8325	31.2144	Temperate	SAV	NA	-
185	ZM-Mon	-15.4378	23.2528	Tropical	WSA	88	-

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