Auxiliary material

Overview of FLUXNET sites

Table A1. Site characteristics of the 80 forest FLUXNET sites: Site abbreviation as in FLUXNET, site name (Site), Latitude (Lat), igpb- forest type (For) (DBF = Deciduous Broadleaf, EBF = Evergreen Broadleaf, ENF = Evergreen needleleaf, MF = Mixed Forest), climate group (Clim) (TE = Temperate, TR = Tropical, SM = Subtropical-Mediterranean, AR = Arctic, BO = Boreal, TC = Temperate-Continental), N deposition (Ndepo in kg N ha^{-1} yr^{-1}), A_{max} (A_{max} in μmol CO_2 m^{-2} s^{-1}), foliar N concentration (fol N in %N per gram dry weight), maximum tree LAI (LAI) in m^2 m^{-2}, number of included data years (#yr), site citation, and citations for foliar N and LAI.

Site	Name	Lat	For	Clim [c]	Ndepo	A_{max}	fol N	LAI	#yr	Site citation [d]	Citation fol N	Citation LAI
AU-Tum	Tumburumba	-35.66	EBF	TE	4.0	28.2	-	1.4	5	Leuning et al. 2005	-	Leuning et al. 2005
BE-Bra	De Inslag Forest	51.31	MF	TE	26.5	23	2.100	1.9	6	Janssens et al. 1999	Op de Beeck et al. 2010	Op de Beeck et al. 2010
BE-Vie	Vielsalm	50.31	MF	TE	25.6	28.2	-	5.1	8	Aubinet et al. 2001	-	Beer et al. 2009
BR-Ban	Ecotone Bananal Island	-9.82	EBF	TR	8.2	32.9	-	-	2	Da Rocha et al. 2009	-	-
BR-Cax	Caxiuana Forest	-1.72	EBF	TR	5.6	28.8	-	6.2	3	Carswell et al. 2002	-	Carswell et al. 2002
BR-Ji2	Rebio Jara Ji Parana	-10.08	EBF	TR	6.5	41.9	-	-	3	von Randow et al. 2004	-	-
BR-Ma2	Manaus	-2.61	EBF	TR	4.6	43.1	-	4.7	4	Araújo et al. 2002	-	Beer et al. 2009
BR-Sa1	Santarem km67	-2.86	EBF	TR	5.7	33	-	-	3	Saleska et al. 2003	-	-
BR-Sa3	Santarem km83	-3.02	EBF	TR	5.7	33.1	-	-	3	Saleska et al. 2003	-	-
CA-Ca1 [e]	Campbell River, Mature	49.87	ENF	TE	1.7	32	-	8.4	8	Humphreys et al. 2006	-	Humphreys et al. 2006
CA-Gro	Groundhog River site	48.22	MF	TC	4.0	27.3	-	2.7	2	McCaughey et al. 2006	-	Thomas et al. 2008
CA-Man	BOREAS NSA	55.88	ENF	BO	1.3	13.7	-	4.2	6	Dunn et al. 2007	-	Dunn et al. 2007
CA-NS1	UCI 1850 burn site	55.88	ENF	BO	1.3	11.8	-	5.5	3	Goulden et al. 2006	-	Goulden et al. 2006
CA-Oas	Sask. SSA Old Aspen	53.63	DBF	BO	2.5	29.2	2.500	5.8	8	Griffis et al. 2003	Kergoat et al. 2008	Griffis et al. 2003

CA-Obs	Sask. SSA Old Black Spruce	53.99	ENF	BO	2.6	15.8	0.700	4.2	7	Griffis et al. 2003	Kergoat et al. 2008	Griffis et al. 2003
CA-Ojp	Sask. SSA Old Jack Pine	53.92	ENF	BO	2.6	13.1	1.000	2.5	6	Griffis et al. 2003	Kergoat et al. 2008	Griffis et al. 2003
CA-Qfo	Quebec Mature Boreal	49.69	ENF	BO	3.1	14.6	0.790	3.7	2	Bergeron et al. 2007	Bergeron et al. 2007	Bergeron et al. 2007
CA-TP4	Turkey Point Mature	42.71	ENF	TC	11.6	25.8	1.330	8.0	2	Arain & Restrepo-Coupe 2005	pers. comm. (A. Arain)	Chen et al. 2006
CA-WP1	Western Peatland	54.95	MF	BO	1.7	17.9	0.947	1.3	2	Flanagan & Syed, 2011	pers. communication (L. Flanagan) & Syed et al. 2006	Syed et al. 2006
CN-Anh	Anhui Huaining	33	DBF	SM	32.4	39.6	-	-	1	Xudong Zhang	-	-
CN-Cha	Changbaishan	42.4	MF	TC	11.3	7.1	-	5.8	1	Guan et al. 2006	-	Guan etal. 2006
CZ-BK1 [e]	Bily Kriz	49.5	ENF	TC	17.6	27	-	-	4	Reichstein et al. 2005	-	-
DE-Bay	Bayreuth	50.14	ENF	TE	20.3	24	-	5.2 [a]	2	Staudt & Foken, 2007	-	Thomas & Foken, 2007
DE-Hai	Hainich	51.08	DBF	TE	22.6	30.7	-	5.0	6	Knohl et al. 2003	-	Knohl et al. 2003
DE-Har	Hartheim	47.93	ENF	TE	19.8	27.5	-	1.9 [a]	1	Schindler et al. 2006	-	Schindler et al. 2006
DE-Tha	Tharandt	50.96	ENF	TE	18.7	31.8	1.530	7.6	8	Grünwald & Bernhofer, 2007	Peltoniemi et al. 2012	Beer et al. 2009
DE-Wet	Wetzstein	50.45	ENF	TE	21.4	28.3	-	4.8	4	Anthoni et al. 2004	-	Beer et al. 2009
DK-Sor	Soroe	55.49	DBF	TE	15.1	37.6	2.270	5.0	8	Pilegaard et al. 2003	NitroEurope	Pilegaard et al. 2003
ES-ES1	El Saler	39.35	ENF	SM	6.6	20.5	-	2.6	7	Sanz et al. 2004	-	Beer et al. 2009
FI-Hyy	Hyytiälä	61.85	ENF	BO	5.9	21.4	1.200	3.3	8	Vesala et al. 2005	Palmroth & Hari, 2001	Lindroth et al. 2008
FI-Sod	Sodankyla	67.36	ENF	BO	2.4	14	1.050	1.7	6	Suni et al. 2003	Peltoniemi et al. 2012	Beer et al. 2009
FR-Fon	Fontainebleau	48.48	DBF	TE	19.1	36.8	2.400	5.1	1	Michelot et al. 2011	Michelot et al. 2011	Michelot et al. 2011
FR-Hes	Hesse Forest	48.67	DBF	TE	22.7	35.9	2.500	6.2	8	Granier et al. 2002	Kergoat et al. 2008	Granier et al. 2002
FR-LBr	Le Bray	44.72	ENF	TE	11.7	28.9	0.800	3.1	5	Berbigier et al. 2001	Berbigier et al. 2001	Berbigier et al. 2001
FR-Pue	Puechabon	43.74	EBF	SM	12.5	19.5	-	2.9	5	Rambal et al. 2004	-	Beer et al. 2009
GF-Guy	French Guyana	5.28	EBF	TR	1.6	40.6	-	7.0 [a]	2	Bonal et al. 2008	-	Bonal et al. 2008
ID-Pag	Palangkaraya	2.35	EBF	TR	4.1	33	-	5.6	2	Hirano et al. 2007	-	Hirano et al. 2007
IL-Yat	Yatir	31.34	ENF	DR	4.9	14.2	-	2.0	5	Grünzweig et al. 2003	-	Grünzweig et al. 2003
IT-Col	Collelongo	41.85	DBF	SM	9.3	30.1	2.740	6.4	6	Scartazza et al. 2004	pers. comm. (G. Matteucci)	pers. comm. (G. Matteucci)
IT-Cpz	Castelporziano	41.71	EBF	SM	10.7	19.7	1.500	3.5	6	Garbulsky et al. 2008	Kergoat et al. 2008	Beer et al. 2009
IT-Lav	Lavarone	45.96	ENF	TE	15.4	32.6	1.100	8.1	3	Marcolla et al. 2003	pers. comm. (D. Gianelle)	pers. comm. (D. Gianelle)

IT-Ren	Renon	46.59	ENF	TE	16.3	26.2	1.25	5.1	6	Montagnani et al. 2009	Peltoniemi et al. 2012	Montagnani et al. 2009
IT-Ro1	Roccarespampani	42.41	DBF	SM	10.7	30.1	-	4.0	5	Kowalski et al. 2004	-	FLUXNET website
IT-SRo	San Rossore	43.73	ENF	SM	13.3	23.2	0.708	4.2	7	Chiesi et al. 2005	pers. comm. (A. Cescatti)	Chiesi et al. 2005
IT-Vig	Vigevano	45.32	DBF	SM	14.8	39.4	-	4.2	1	Zenone, 2007	-	pers. comm. (A. Cescatti)
JP-Tak [b]	Takayama	36.15	DBF	TC	11.8	28.9	-	3.8	6	Saigusa et al. 2002	-	Saigusa et al. 2002
JP-Tef	Teshio Exp Forest	45.06	MF	TC	3.5	31.7	1.630	3.0	2	Takagi et al. 2009	Peltoniemi et al. 2012	Peltoniemi et al. 2012
JP-Tom	Tomakomai	42.74	MF	TC	4.7	43.9	-	2.1	3	Hirano et al. 2003	-	Hirano et al. 2003
NL-Loo	Loobos	52.17	ENF	TE	28.1	30.4	1.810	1.9	8	Dolman et al. 2002	Kergoat et al. 2008	Dolman et al. 2002
PT-Mi1	Mitra (Evora)	38.54	EBF	SM	7.6	11.5	-	2.6	2	David et al. 2004	-	David et al. 2004
RU-Fyo	Fyedorovskoye	56.46	ENF	TC	8.3	25.6	-	3.5	7	Milyukova et al. 2002	-	Milyukova et al. 2002
RU-Zot	Zotino	60.8	ENF	BO	1.8	13.9	0.990	1.5	1	Suni et al. 2003	Kergoat et al. 2008	Peltoniemi et al. 2012
SE-Abi [e]	Abisko	68.36	DBF	AR	1.8	13.1	1.790	2.6 [a]	1	Lindroth et al. 2008	Peltoniemi et al. 2012	Lindroth et al. 2008
SE-Fla	Flakaliden	64.11	ENF	BO	4.0	18.6	1.150	3.4	3	Roberntz, 2001	Kergoat et al. 2008	Lindroth et al. 2008
SE-Nor	Norunda	60.09	ENF	TC	6.4	21.3	0.925	4.5	3	Lindroth et al. 1998	pers. comm. (A. Lindroth)	Lindroth et al. 2008
SE-Sk2 [b]	Skyttorp 2	60.13	ENF	TC	6.4	23	1.150	3.8	1	Lindroth et al. 2008	pers. comm. (A. Lindroth)	Lindroth et al. 2008
UK-Gri	Griffin	56.61	ENF	TE	6.3	31	-	6.5	3	Medlyn et al. 2005	-	Medlyn et al. 2005
UK-Ham	Hampshire	51.12	DBF	TE	17.8	43.5	2.500	7.2	2	Read et al. 2009	pers.comm. (M. Wilkinson)	pers.comm.(M. Wilkinson)
US-Bar	Bartlett Exp. Forest	44.06	DBF	TC	7.9	27.7	1.660	4.5	2	Ollinger & Smith, 2005	Ollinger et al. 2008	Ollinger et al. 2008
US-Bn1	Bonanza Creek 1920 burn	63.92	ENF	BO	0.4	9.1	-	3.4	1	Liu et al. 2005	-	Liu et al. 2005
US-Dk2	Duke Hardwoords	35.97	DBF	SM	11.5	37	1.850	5.6	3	Ellsworth et al. 2004	Ollinger et al. 2008	Ollinger et al. 2008
US-Ha1	Harvard Forest	42.54	DBF	TC	9.8	34.7	1.950	5.5	8	Urbanski et al. 2007	Ollinger et al. 2008	Ollinger et al. 2008
US-Ho1	Howland (main tower)	45.2	ENF	TC	6.0	28.1	1.160	5.7	7	Hollinger et al. 2004	Ollinger et al. 2008	Ollinger et al. 2008
US-KS1	Kennedy Space Centre	28.46	ENF	SM	5.8	21.5	-	1.9	1	Bracho et al. 2008	-	Bracho et al. 2008
US-LPH	Little Prospect Hill	42.54	DBF	TC	9.8	28.5	-	5.0	2	Davidson et al. 2006	-	Hadley et al. 2008
US-Me2	Metolius Intermediate Aged	44.45	ENF	SM	3.0	22.2	0.950	3.7	3	Law et al. 2001	Schwarz et al. 2004	Law et al. 2003
US-Me4	Metolius Old	44.5	ENF	SM	3.0	16.4	1.160	2.1	2	Law et al. 2001	Schwarz et al. 2004	Law et al. 2003
US-MMS	Morgan Monroe State Forest	39.32	DBF	SM	16	31.9	2.060	4.9	7	Schmid et al. 2000	Ollinger et al. 2008	Ollinger et al. 2008
US-MOz	Missouri Ozark	38.74	DBF	SM	14.9	31.2	-	4.2	1	Gu et al. 2006	-	Gu et al. 2007

US-NR1	Niwot Ridge Forest	40.03	ENF	BO	5.6	15.3	0.930	4.0	4	Monson et al. 2002	Ollinger et al. 2008	Ollinger et al. 2008
US-Oho	Oak Openings	41.55	DBF	TC	13.4	40	-	5.0	2	DeForest et al. 2006	-	Noormets et al. 2007
US-PFa	Park Falls	45.95	MF	TC	6.1	22.6	-	-	4	Davis et al. 2003	-	-
US-SP1	Slash Pine (Austin Cary)	29.74	ENF	SM	7.4	20.9	-	6.0	1	Clark et al. 2004	-	Powell et al. 2008
US-Syv	Sylvania Wilderness Area	46.24	MF	TC	5.9	26.3	-	-	4	Desai et al. 2005	-	-
US-UMB	Uni. Michigan Biol. Station	45.56	DBF	TC	6.1	30.7	2.000	3.5	5	Nave et al. 2009	pers. comm. (L. Nave)	Nave et al. 2009
US-WBW [b]	Walker Branch Watershed	35.96	DBF	SM	13.4	35.5	1.750	6.0	2	Hanson et al. 2005	Kergoat et al. 2008	Kergoat et al. 2008
US-Wcr	Willow Creek	45.81	DBF	TC	6.1	38.9	1.790	5.4	7	Desai et al. 2005	Ollinger et al. 2008	Ollinger et al. 2008
US-Wi4	Wisconsin (Mature Red Pine)	46.74	ENF	TC	5.1	27.1	-	3.2	1	Noormets et al. 2007	-	Noormets et al. 2007
US-Wrc [e]	Wind River Crane	45.82	ENF	TE	4.0	24.8	0.750	8.2	4	Chen et al. 2004	Ollinger et al. 2008	Ollinger et al. 2008
VU-Coc	Coco Flux	-15.44	EBF	TR	0.7	42.6	-	5.7	3	Roupsard et al. 2006	-	Beer et al. 2009

[a] LAI estimate includes understorey.

[b] Precipitation measurements were unavailable at fluxtower.

[c] Climate classification follows the Köppen-Geiger climate classification [*Kottek et al.*, 2006].

[d] Name of Principal Investigator was given if no site reference was available.

[e] Sites were excluded due to unusually high leverage on regression results.

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