

Table 1. TS2 Information about sites included in the JapanFlux2024 dataset.

Site code (BADM)	AsiaFlux ID	Country	Country ID	Site name	Latitude (degree)	Longitude (degree)	Elevation (m)	Köppen climate	IGBP (land use)	Status	Years	Reference	Data citation
RU-Tur	TUR	Russia	RU	Tura	64.208888	100.463555	250	Dfc	DNF	Ongoing	2004	Nakai et al. (2008)	Matsuura and Morishita (2025)
RU-NeB		Russia	RU	Neleger Burnt Forest	62.325937	129.487342	221	Dfd	GRA	Completed	1999–2000	Iwahana et al. (2005)	Machimura (2025a)
RU-NeF		Russia	RU	Neleger larch forest	62.315615	129.499964	223	Dfd	DNF	Completed	1999–2006	Iwahana et al. (2005)	Machimura (2025b)
RU-NeC		Russia	RU	Neleger Cutover	62.314844	129.500075	221	Dfd	OSH	Completed	2001–2006	Iwahana et al. (2005)	Machimura (2025c)
RU-SkP	YLF	Russia	RU	Yakutsk Spasskaya Pad larch	62.25471	129.618543	217	Dfc	DNF	Ongoing	2004–2014	Ohta et al. (2008)	Maximov et al. (2025b)
RU-Sk2	YPF	Russia	RU	Yakutsk Spasskaya Pad Pine	62.241291	129.651336	216	Dfc	ENF	Completed	2004–2008	Hamada et al. (2004)	Kotani et al. (2025)
RU-USk		Russia	RU	Ulakhan Sykkhan Alas	62.150995	130.527517	143	Dfd	GRA	Completed	2000	Yabuki et al. (2004)	Yabuki et al. (2025)
RU-Ege		Russia	RU	Elgeei forest station	60.01551563	133.8240123	203	Dfd	DNF	Ongoing	2010–2018	Kotani et al. (2014)	Maximov et al. (2025a)
MN-Skt	SKT	Mongolia	MN	Southern Khentei Taiga	48.351861	108.654333	1630	Dwc	DNF	Completed	2003–2006	Li et al. (2005b)	Asanuma (2025b)
MN-Udg		Mongolia	MN	Udleg practice forest	48.25638888	106.8511111	1342	Dwc	DNF	Ongoing	2010–2012	Miyazaki et al. (2014)	Ishikawa (2025)
MN-Nkh		Mongolia	MN	Nalaikh grassland	47.693592	107.489342	1531	BSk	GRA	Completed	2015–2020	Wang et al. (2023)	Wang et al. (2025b)
MN-Hst		Mongolia	MN	Hustai grassland	47.594131	105.856439	1227	BSk	GRA	Completed	2015–2020	Wang et al. (2023)	Wang et al. (2025a)
MN-Kbu	KBU	Mongolia	MN	Kherlenbayan Ulaan	47.213972	108.737333	1235	Bsk	GRA	Completed	2003–2009	Li et al. (2005a)	Asanuma (2025a)
CN-Lsh	LSH	China	CN	Laoshan	45.279839	127.578206	340	Cfc	DNF	Ongoing	2002–2006	Wang et al. (2005)	Saigusa and Wang (2025)
JP-Sb1		Japan	JP	Sarobetsu Mire Moss	45.104722	141.688194	6	Dfb	WET	Completed	2007–2010	Hirano et al. (2016)	Hirano (2025a)
JP-Sb2		Japan	JP	Sarobetsu Mire Sasa	45.103611	141.680833	4	Dfb	WET	Completed	2007–2010	Hirano et al. (2016)	Hirano (2025b)
JP-Tef	TSE	Japan	JP	CC-LaG Teshio Experimental Forest	45.055808	142.107122	79.47	Dfb	DNF	Ongoing	2001–2023	Takagi et al. (2009)	Takagi and Takahashi (2025)
JP-MBF	MBF	Japan	JP	Moshiri Birch Forest Site	44.38416667	142.3186111	596	Af	DBF	Completed	2003–2011	Nakai et al. (2006)	Nakai et al. (2025a)
JP-MMF	MMF	Japan	JP	Moshiri Mixd Forest Site	44.32194444	142.2613889	343	Af	MF	Completed	2003–2011	Nakai et al. (2006)	Nakai et al. (2025b)
JP-BBY	BBY	Japan	JP	Bibai bog	43.32296	141.81079	17	Dfb	WET	Completed	2012–2021	Ueyama et al. (2020c)	Ueyama et al. (2025e)
JP-Km1		Japan	JP	Kushiro Mire: Onnenai Fen	43.107511	144.330906	4.9	Dfb	WET	Completed	1994–1996, 1998	Miyata et al. (1997)	Harazono and Miyata (2025a)
JP-Km2		Japan	JP	Kushiro Mire: Akanuma Bog	43.1	144.35	7	Dfb	WET	Completed	1998–1999	Miyata et al. (2001)	Harazono and Miyata (2025b)
JP-Spp	SAP	Japan	JP	Sapporo forest meteorology research site	42.9868431	141.3853305	174	Dfb	DBF	Ongoing	2000–2018	Yamanoi et al. (2015)	Mizoguchi and Kitamura (2025)
CN-In4		China	CN	Inner Mongolia maize	42.94413333	120.7266222	354	Bsk	CRO	Completed	1994	Li et al. (2000)	Harazono and Takagi (2025d)
CN-In5		China	CN	Inner Mongolia no grazing	42.93415833	120.7090778	355	Bsk	GRA	Completed	1992–1994	Li et al. (2000)	Harazono and Takagi (2025e)
CN-In6		China	CN	Inner Mongolia heavy grazing	42.93401389	120.7115472	355	Bsk	GRA	Completed	1992–1994	Li et al. (2000)	Harazono and Takagi (2025f)
CN-In8		China	CN	Inner Mongolia medium grazing	42.93396667	120.7105306	355	Bsk	GRA	Completed	1992, 1994	Li et al. (2000)	Harazono and Takagi (2025h)
CN-In2		China	CN	Inner Mongolia grassland	42.93396389	120.7109639	355	Bsk	GRA	Completed	1991	Li et al. (2000)	Harazono and Takagi (2025b)
CN-In7		China	CN	Inner Mongolia light grazing	42.93391944	120.7096056	355	Bsk	GRA	Completed	1992–1994	Li et al. (2000)	Harazono and Takagi (2025g)
CN-In1		China	CN	Inner Mongolia dune	42.92970833	120.70735	356	Bsk	BSV	Completed	1990–1991	Li et al. (2000)	Harazono and Takagi (2025a)
CN-In3		China	CN	Inner Mongolia soybean	42.94413333	120.7266222	354	Bsk	CRO	Completed	1994	Li et al. (2000)	Harazono and Takagi (2025c)

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JP-Tmk	TMK	Japan	JP	Tomakomai Flux Research Site	42.736972	141.516944	140	Dfb	DNF	Completed	2001–2003	Hirano et al. (2003)	Hirata and Hirano (2025)
JP-Tmd	TMK	Japan	JP	Tomakomai Flux Research Site Disturbed	42.735911	141.523147	117	Dfb	DBF	Ongoing	2005–2023	Hirano et al. (2017)	Hirano and Hirata (2025)
JP-Toc		Japan	JP	Tomakomai Crane site	42.709727	141.565898	96	Dfb	DBF	Ongoing	2010–2014	Nakamura et al. (2014)	Nakaji et al. (2025)
JP-Tom	TOE	Japan	JP	Tomakomai Experimental Forest	42.698906	141.571488	90	Dfb	DBF	Completed	1999–2013	Shibata et al. (2005)	Nakaji (2025)
JP-Srk	SRK	Japan	JP	Shirakami Beech Forest Site	40.565485	140.127794	340	Dfa	DBF	Ongoing	2010–2016	Ishida et al. (2009)	Ishida (2025)
JP-Api	API	Japan	JP	Appi forest meteorology research site	40.0013585815243	140.936585918296	831	Dfa	DBF	Ongoing	2000–2022	Yasuda et al. (2012)	Yasuda (2025a)
JP-Mra	MRA	Japan	JP	Muramatsu Agricultural Field	37.690275	139.194429	43	Cfa	CRO	Ongoing	2023	Boiarskii and Hasegawa (2019)	Nagano and Hasegawa (2025)
CN-HaM	QHB	China	CN	Qinghai Flux Research Site	37.607432	101.332	3250	BSk	GRA	Ongoing	2001–2014	Du et al. (2021)	Du et al. (2025)
JP-NsM	NSS	Japan	JP	Nasu Research Station, Manure Application Plot	36.91583333	139.9358333	320	Cfa	GRA	Completed	2004–2015	Matsuura et al. (2023)	Matsuura (2025a)
JP-NsC	NSS	Japan	JP	Nasu Research Station, Chemical Fertilizer Plot	36.915	139.9366667	320	Cfa	GRA	Completed	2004–2015	Matsuura et al. (2023)	Matsuura (2025b)
JP-Kzw	KZW	Japan	JP	Karuizawa	36.406667	138.5725	1385	Dfb	DBF	Completed	2001–2008	Nakaya et al. (2006)	Nakaya et al. (2025)
JP-Tkb		Japan	JP	Tsukuba Experimental Watershed	36.173379	140.176634	341	Cfa	ENF	Ongoing	2014, 2018–2021	Iida et al. (2020)	Shimizu et al. (2025b)
JP-Tak	TKY	Japan	JP	Takayama deciduous broadleaf forest site	36.14616667	137.4231111	1425	Dfb	DBF	Ongoing	1998–2021	Murayama et al. (2024a)	Murayama et al. (2025b)
JP-Ta2	TKC	Japan	JP	Takayama evergreen coniferous forest site	36.139722	137.370833	800	Dfb	ENF	Ongoing	2005–2022	Saitoh et al. (2010)	Saitoh and Tamagawa (2025)
JP-Tgf	TGF	Japan	JP	Terrestrial Environment Research Center, University of Tsukuba	36.11353	140.09488	27	Cfa	GRA	Completed	2002–2022	Shimoda et al. (2005)	Asanuma and Shimoda (2025)
JP-KaP		Japan		Kasumigaura lotus paddy	36.08	140.24	3	Cfa	CRO	Completed	1997–1998	Takagi et al. (2003)	Harazono et al. (2025)
JP-Mse	MSE	Japan	JP	Mase paddy flux site	36.05393	140.02693	11	Cfa	CRO	Ongoing	2001–2009	Saito et al. (2005)	Ono (2025)
JP-SwL	SWL	Japan	JP	Suwa Lake Site	36.04657222	138.1083528	758	Dfc	WAT	Ongoing	2015–2023	Iwata et al. (2018)	Iwata (2025b)
JP-KaL		Japan	JP	Koshin, Lake Kasumigaura	36.037778	140.404167	0.26 (at the water level of Y.P.1.1 m)	Cfa	WAT	Ongoing	2007–2022	Sugita et al. (2020)	Sugita (2025)
JP-Nsb		Japan	JP	NIAES Soybean	36.024303	140.114975	24	Cfa	CRO	Completed	1990	Harazono et al. (1992)	Harazono (2025a)
JP-Yrp		Japan	JP	Yawara Rice paddy	36.00766667	140.0301752	23	Cfa	CRO	Completed	1993–1995	NA	Harazono (2025b)
JP-Kwg	KWG	Japan	JP	Kawagoe forest meteorology research site	35.8725	139.4869	41	Cfa	DBF	Completed	1997–2002	Yasuda et al. (1998)	Yasuda (2025b)
JP-Shn		Japan	JP	Shinshu University Experimental Forest Site	35.865755	137.932563	775	Dfa	MF	Ongoing	2014–2019	NA	Iwata and Suzuki (2025)
JP-Nkm	NKM	Japan	JP	Nishikoma Site	35.808064	137.833883	2641	Dfb	ENF	Ongoing	2018–2023	NA	Iwata (2025a)
JP-Fmt		Japan	JP	Field Museum Tama Hills	35.638745	139.379748	168	Cfa	MF	Ongoing	2013–2023	Matsuda et al. (2015)	Takagi and Matsuda (2025)
JP-Kgu		Japan	JP	Kugahara urban residential area	35.582859	139.693543	18.5	Cfa	URB	Completed	2001–2002	Moriwaki and Kanda (2004)	Kanda and Moriwaki (2025)
JP-Fjy	FJY	Japan	JP	Fujiyoshida forest meteorology research site	35.45454	138.76225	1043	Cfa	ENF	Ongoing	2000–2021	Mizoguchi et al. (2012)	Takanashi et al. (2025a)

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JP-Fhk	FHK	Japan	JP	Fuji Hokuoku Flux Observation Site	35.44355577	138.7646931	1100	Cfa	DNF	Ongoing	2006–2023	Takahashi et al. (2015)	Takahashi et al. (2025)
JP-Hrt		Japan	JP	Hiratsuka Rice Paddy	35.362778	139.338056	6.98	Cfa	CRO	Completed	2013	Komiya (2015)	Komiya (2025a)
JP-SMF	SMF	Japan	JP	Seto Mixed Forest Site	35.261528	137.07875	212	Cfa	MF	Completed	2002–2016	Matsumoto et al. (2008)	Kotani and Ohta (2025)
JP-Nuf		Japan	JP	Nagoya University Forest	35.15241667	136.9718889	66	Cfa	DBF	Completed	2000–2001	Hiyama et al. (2005)	Awai and Ohta (2025a)
JP-Tdf		Japan	JP	Toyota Deciduous Forest	35.03588889	137.1857778	104	Cfa	DBF	Completed	2002–2004	Awai et al. (2010)	Awai and Ohta (2025b)
JP-Yms	YMS	Japan	JP	Yamashiro forest meteorology research site	34.790278	135.840939	220	Cfa	DBF	Ongoing	2000–2023	Kominami et al. (2008)	Takanashi et al. (2025b)
JP-Nap		Japan	JP	Nunoko Agricultural Pond	34.77485	134.892442	40	Cfa	WAT	Completed	2021–2023	NA	Sakabe and Itoh (2025)
JP-Ako	AKO	Japan	JP	Akou green belt	34.735192	134.374798	10.5	Cfa	EBF	Completed	2000–2003	Kosugi et al. (2005)	Kosugi and Takanashi (2025)
JP-Sac	SAC	Japan	JP	Sakai City Office	34.57391389	135.4828889	17	Cfa	URB	Ongoing	2008–2023	Ueyama and Takano (2022)	Ueyama (2025d)
JP-Ozm	IZM	Japan	JP	Oizumi Urban Park	34.563469	135.533483	22	Cfa	URB	Completed	2015–2016	Ueyama and Ando (2016)	Ueyama (2025a)
JP-Om1	OM1	Japan	JP	B11 building in Osaka Metropolitan University	34.547177	135.502861	27	Cfa	URB	Ongoing	2014–2023	Ueyama and Ando (2016)	Ueyama (2025b)
JP-Om2	OM2	Japan	JP	Farm field in Osaka Metropolitan University	34.542452	135.508227	50	Cfa	GRA	Ongoing	2022–2023	NA	Ueyama (2025c)
JP-Hc3		Japan	JP	Hachihama Experimental Farm: Double Crop	34.539672	133.911731	−0.25	Cfa	CRO	Completed	2005–2009	Takimoto et al. (2010)	Takimoto and Iwata (2025b)
JP-Hc1		Japan	JP	Hachihama Experimental Farm: the International Rice Experiment	34.53789167	133.9267972	0	Cfa	CRO	Completed	1996	Harazono et al. (1998)	Harazono (2025c)
JP-Hc2	HCH	Japan	JP	Hachihama Experimental Farm	34.537518	133.927545	−1	Cfa	CRO	Completed	1999–2008	Ohtaki (1984)	Takimoto and Iwata (2025a)
JP-Khw	KHW	Japan	JP	Kahoku Experiment watershed	33.13658	130.70834	196	Cfa	ENF	Ongoing	2000–2003, 2007–2021	Shimizu et al. (2015)	Kitamura et al. (2025)
JP-Ynf	YNF	Japan	JP	Yona-Field Tower Site	26.751	128.212667	213	Cfa	EBF	Ongoing	2013–2022	Matsumoto et al. (2023)	Matsumoto et al. (2025)
TH-Kog		Thailand	TH	Kog-Ma Watershed	18.8	98.9	1265	Af	EBF	Completed	2005–2013	Kume et al. (2007)	Kumagai and Takamura (2025a)
TH-Mae		Thailand	TH	Mae Moh plantation	18.38333333	99.71666667	380	Aw	DBF	Completed	2005–2016	Igarashi et al. (2015)	Kumagai and Takamura (2025b)
TH-Kms		Thailand	TH	Kamphaeng Saen Rice Paddy	14.009167	99.984167	4.74	Aw	CRO	Completed	2014	Komiya (2015)	Komiya (2025b)
KH-Kmp		Cambodia	KH	Kampong Thom Lowland Dry Evergreen Forest	12.74457978	105.4785661	95	Am	EBF	Ongoing	2011–2014	Kabeya et al. (2021)	Shimizu et al. (2025a)
MY-LHP	LHP	Malaysia	MY	Lambir Hills National Park	4.201007	114.039079	140	Af	EBF	Completed	2009–2019	Takamura et al. (2023)	Kumagai et al. (2025)
ID-Pag		Indonesia	ID	Palangkaraya Undrained Forest	−2.323916667	113.9043917	22	Am	EBF	Ongoing	2004–2019	Hirano et al. (2024)	Hirano and Ohkubo (2025c)
ID-PaB		Indonesia	ID	Palangkaraya Drained Burnt forest	−2.340796	114.0379	14	Am	OSH	Completed	2004–2017	Ohkubo et al. (2021)	Hirano and Ohkubo (2025a)
ID-PaD	PDF	Indonesia	ID	Palangkaraya Drained forest	−2.346070697	114.036408	26	Am	EBF	Completed	2001–2017	Hirano et al. (2024)	Hirano and Ohkubo (2025b)

NA: not available.