Gillison A.N. 2012. Circumboreal Gradients in Plant Species and Functional Types. *Botanica Pacifica. A journal of plant science and conservation* 1(1):97–107

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TABLE S1. Location and vegetation types of all transects

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Austria	Austria01	48.055389	16.129944	302	Heiligenkreuz	Mixed beech, broad-leaf forest with *Acer*, *Ulmus* and *Fraxinus*
Canada	CAN01	49.033333	-125.666667	5	Tofino Bay, British Columbia	Coastal coniferous rain forest
Canada	CAN02	49.291389	-124.663056	50	Cathedral Grove MacMillan Provincial Park Vancouver Island, B.C.	Conifer forest
Canada	Ontario01	48.13333	-81.45	230	Bruce Peninsula	Scattered low trees and shrubs over pavement
England	ENG01	51.666667	-2.833333	90	Forest of Dean Gloucestershire	Oak forest
England	ENG02	54.4	-2.966667	90	Balla Wraz, Cumbria - Lake Windermens	Oak / larch forest (BA est.)
Finland	Lammi01	61.166694	25.066667	103	Near Lammi Research Centre	*Picea* dominated forest near mire
Georgia	Cauc01	41.762778	43.521333	1720	Baikuriani station, Minor Caucasus	Managed natural forest with dense herbaceous layer over mor
Georgia	Cauc02	41.681111	43.5725	2140	Baikuarani uplands	Heavily grazed sub-alpine pasture - Azerbaijani herders

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Georgia	Cauc03	42.152861	44.725011	1010	Ananura	Heavily disturbed, beech, *Ostrea* broad-leaved forest
Georgia	Cauc04	42.666889	44.619278	2075	Gezgeti, Kazbegi Mt.	Mixed *Betula litwinowii* and *Populus tremula* forest with dense herbaceous understorey
Georgia	Cauc05	42.667	44.607444	2286	Gezgeti. Kazbego Mt.	*Betula litwinowii* krummholz forest in wind shadow next to alpine meadow
Georgia	Cauc06	42.664333	44.588583	2650	Gezgeti, Mt. Kazbegi	Grazed alpine meadow with some tourist pressure
Georgia	Cauc07	42.704639	44.61975	1574	Gveleti canyon	Typical scree vegetation with mixed forbs. Reasonably undisturbed, near creek
Iceland	Iceland01	64.13878	-21.95548	15	Reykjanes peninsula	Similar to Fjaeldmark, exposed to wind, snow and sea. Grazed by goats
Japan	JAP01	35.166667	138.616667	251	Lower area Mt. Fuji	Disturbed montane deciduous forest
Japan	JAP02	35.366667	138.75	2251	Mt. Fuji	High montane *Rhododendron* shrubland
Mongolia	MNG01	48.332778	106.260833	1305	Yellow Valley	Birch-poplar secondary forest
Mongolia	MNG02	48.331667	106.260556	1307	Yellow valley	Open woodland dominated by Scots pine
Mongolia	MNG03	49.05	107.210833	907	Sheep valley	Disturbed, birch-pine meadow
Mongolia	MNG04	48.976389	107.155	1025	Bear Cub Pass, Khentii Mts.	Mixed yew / birch / larch taiga
Mongolia	MNG05	48.955	107.119167	1180	Bear Cub Pass, Khentii Mts	Conifer / broadleaf forest with distinct ericaceous understorey
Mongolia	MNG06	48.949167	106.364167	990	Near Barung Hara, N. Mongolia	Pasture heavily grazed. No FI values
Mongolia	MNG07	49.647778	106.033611	714	'White lake' (Salt lake). Near Darkhan, N. Mongolia	Native halophytic pasture, very heavily grazed by Yaks, camels, horses, goats

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Mongolia	MNG08	50.030833	106.208056	788	Shaamar, N. Mongolia	Natural shrubland grazed by horses, goats, sheep, cattle, rabbits; not fired
Mongolia	MNG09	50.061111	106.160833	622	Shaamar, N. Mongolia	Highly disturbed 'elm' woodland
Mongolia	MNG10	49.985556	105.042778	1080	North of Tovkhon Khaan Mt, Selenge Province, N. Mongolia	Open pine forest, herbaceous understorey. Grazed mostly by native animals
Mongolia	MNG11	49.496944	103.421111	1326	Burenkhaan Mt, Bulgan Province, N. Mongolia	Native pasture – not steppe
Mongolia	MNG12	48.502778	103.460278	1268	Burenkhaan Mt., Bulgan Province, N. Mongolia	Hevily logged open conifer / broadleaf forest with dense herbaceous understorey
Mongolia	MNG13	46.744167	101.973889	1958	Orkhon river and waterfall. Bat-Olziit Sum (settlement), Oborkhangai Province	Tall conifer forest (mainly larch, some Pinus)
Mongolia	MNG14	46.788889	101.955	1796	Orkhon River near Ger camp and waterfall. Remnant forested island. Bat Olziit su	Remnant larch stand with mixed conifer / broadleaf and herbaceous ground layer
Mongolia	MNG15	46.778056	101.914722	1856	Red Canyon, Near Waterfall. Orkhon river. Bat Olziit, Ger settlement., N. Mongol	Heavily grazed by sheep, goats, yaks, horses. Rabbits
Mongolia	MNG16	46.991944	101.718611	2107	Below Oliin-Davaa Mountain pass, Tsenker sum (south). Arkhangai Province	'Catkin' shrubland with very rich herbaceous layer
Mongolia	MNG17	47.001111	101.728889	2240	Oliin-Davaa Mt Pass, South of Tsenker sum, Arkhangai Province	Larch woodland with dense herb layer
Mongolia	MNG18	48.19	99.848889	2102	Khorgo volcano, Arkhangai Province	Open woodland of larch
Mongolia	MNG19	47.736667	99.163056	2249	Valley in Arkhangai Province	'Mediterranean' type herbfield
Mongolia	MNG20	47.524167	98.956944	2893	Khangai Mt Pass. Between Guruanbulag and Hangai sum	Heavily grazed by domestic and native animals. No fire

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Mongolia	MNG21	47.086111	98.951111	2278	About 20 km north of Zag. Bajankhongor Province	Open graminoid savanna
Mongolia	MNG22	46.347222	98.773611	2275	About 40 km north of Buutsagaar, Bajan-khongor Province	Open grassland savanna. (Semi-steppe)
Mongolia	MNG23	45.918056	99.017778	1538	About 40 km north of Baatsagaan Nuur. Bajankhangok Province	Tussock grass and herbs with succu-lents. Heavily grazed by camels, goats, sheep
Mongolia	MNG24	45.736944	99.3375	1390	Baatsaagan Nuur	Grassland steppe
Mongolia	MNG25	45.655833	99.3725	1354	Baatsagaan Nuur	Shrub steppe
Mongolia	MNG26	45.446667	99.175	1577	Altai Mountain Range, Baatsgaan Nuur	Shrub steppe
Mongolia	MNG27	45.057222	99.175556	1958	20 km east of Baja-tsagaan Sum (centre)	Short grassland steppe
Mongolia	MNG28	44.413333	99.316944	2005	Shin Jinst Mountains, Mountain pass to steppe	'Mini-shrub' steppe
Mongolia	MNG29	43.960556	99.214444	1287	'One hundred trees' site. Gobi desert	Open woodland with thin herbaceous la-yer. Highly distur-bed. Dominated by *Populus*
Mongolia	MNG30	43.905278	99.271667	1180	'Mistake gorge' Gobi desert	*Tamarix* shrubland with saxaul. Locali-zed dense asclepiada-ceous vine cover
Mongolia	MNG31	43.648056	99.160556	823	'Green valley' Gobi desert	Shrub steppe, semi-riparian. Saxaul dominated
Mongolia	MNG32	43.381667	100.295833	1617	35 km sw of Altan-uul, Omnogobi Province. Gobi desert	Shrub steppe
Mongolia	MNG33	43.468333	100.621667	1600	15 km east of Marandaats (spring)	
Mongolia	MNG34	43.468333	100.621667	1356	Nemegt uul. Gobi desert	Shrub steppe on mini-dunes
Mongolia	MNG35	43.403889	101.743333	1381	20 km from Salt factory Gurvantes	Omnogobi province
Mongolia	MNG36	43.478611	103.628333	1632	Bajandalai Sum, Om-nogobi Province. Gobi desert	'Onion steppe'

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Mongolia	MNG37	43.504722	103.924444	2238	Yolii Am (Vulture Gorge), Gobi desert	Juniper - dominated scree with herbaceous layer
Mongolia	MNG38	44.161667	104.383889	1321	50 km north of Khankhongor, Omnogobi Province, Gobi desert	Short shrub steppe
Mongolia	MNG39	45.198333	104.772222	1660	Delgerkhangai, Gobi desert	Short steppe
Mongolia	MNG40	45.816389	105.093889	1490	South of Erdenedanai sum, Mid Gobi	Shrub steppe
Mongolia	MNG41	47.693611	106.095278	1173	25 km west of Mt. Ulaan khan, Tuul river	Short herbfield
Mongolia	MNG42	47.893056	106.406667	1470	31 km west of Ulaanbaatar	Herbfield, meadow
Norway	Narvik01	69.7799	20.99108	2	Mixed vegetation near shoreline dune, Storsletta	*Betula tortuosa* woodland (forest)
Norway	Nor01	68.30898	13.68158	2	Eggum, Lofoten Islands	Arctic meadow
Norway	Nor02	68.15333	13.36667	10	Coast near Kraemervikka, Vestforgay, Lofoten Islands	Mixed Arctic meadow and *Juniper / Calluna* heath
Russia	Kam01	52.62083	158.13603	902	Pass to Mutnovsky thermal power station, Kamchatka	Alpine tundra
Russia	Kam02	54.50038	160.0083	621	Uzon caldera, Kamchatka	Subalpine scrub with *Pinus pumila* and *Betula exilis*
Russia	Kam03	54.50079	160.00645	639	Uzon caldera, Kamchatka	*Betula ermanii* with heath understorey and *Pteridium aquilinum*
Russia	Kam04	53.78667	159.05658	148	Zhupanova River, Dzendzur camp, Kamchatka	*Betula ermanii* forest with dense herb layer
Russia	Kam05	53.94327	157.73926	474	Ganaly. Watershed between Kamchatka and Bystraya rivers	Alpine tundra, *Ledum* dominant
Russia	Kam06	55.91397	158.73225	678	Tupikin stream	Larch woodland with *Pinus pumila*
Russia	Kam07	55.90767	158.77676	955	Upper Tupikin stream. Northern slope of Mt. Dygyren-Olengende	*Pinus pumila*, *Betula*, *Salix* heath.

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Russia	Kam08	55.91011	158.76277	847	Tupikin stream (upper)	Stone Birch (*Betula ermanii*) forest with herbaceous ground layer
Russia	Kam09	55.97353	160.13333	476	Road to Mt. Ploskaya volcano	Larch forest with dense herbaceous ground layer
Russia	Kam10	55.95008	160.20451	768	Mt. Ploskaya area	Larch forest with *Salix* understorey and herb layer
Russia	Kam11	55.94775	160.32574	1417	Near Mt. Ploskaya	Dry alpine tundra
Russia	Kam12	55.94748	160.31691	1395	Near Mt. Plotskaya	Solifluction terrace with chamaephyte and herbaceous cover
Russia	Kam13	55.71494	160.25262	1023	Tolbachinsky Dol (Mt. Tolbachik)	Volcanic 'desert' mainly with sparse chamaephytes
Russia	Kam14	55.77187	160.26384	1156	Lava filed Mt. Tolbachik	Low shrub field of mainly *Salix*. Possible grazing by hares and ground squirrels
Russia	Kam15	55.77407	160.30368	1558	Mt. Tolbachik volcano	Dry tundra. Mainly graminoid but with conspicuous low woody chamaephytes
Russia	Kam16	55.75122	160.23569	958	Edge of Tolbachinsky Dol	*Elymus* grass hummocks with *Salix*
Russia	Kam17	55.77153	159.99054	162	Cheryomushnaya river valley, near Studyodnaya	Tall closed forest of *Populus suaveolens*. Dense *Rosa* understorey
Russia	Kam18	53.20539	157.47064	263	Road junction between Milkova and Bolsharesk	Megaherb field. Zero lichens and bryophytes
Russia	Kam19	53.11824	159.12213	5	Halaktyrsky Beach	Dune front sward dominated by *Elymus* and *Mertensia*. No lichens, no bryophytes
Russia	Kam20	53.11824	159.12213	10	Halaktyrsky Beach	Natural succession in prograding dune sequence. Dominated by graminoids. No lichens

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Russia	Kam21	53.11931	159.12134	18	Halaktyrsky Beach	Successional littoral vegetation, (3rd in series from sea front). Mixed chamaephytes
Russia	Vlad01	43.150661	132.72284	384	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer with Korean pine. Winter aspect
Russia	Vlad02	43.15178	132.72232	380	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer with Korean pine
Russia	Vlad03	43.15162	132.72371	347	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer with Korean pine, slight disturbance with no recent fire
Russia	Vlad04	43.15324	132.72385	312	Shkotovo district, Russian Far East, Lukianovka Village	Mixed Korean pine / broadleaf
Russia	Vlad05	43.15332	132.72396	305	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer with dense shrub understorey
Russia	Vlad06	43.15351	132.72412	311	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer, with Korean pine; some fire history
Russia	Vlad07	43.15437	132.72473	347	Shkotovo district, Russian Far East, Lukianovka Village	Mixed broadleaf / conifer with *Betula* spp. Dense shrub layer with exposed rocks
Russia	Vlad08	43.22173	131.9944	270	Botanical gardens, Vladivostok	Tall broadleaf / conifer (Korean pine) forest with herbaceous groundlayer. Lichens
Russia	Vlad09	43.2175	131.98817	146	Water reserve near Botanical Garden, Vladivostok	Oak (*Quercus mongolica*) forest with dense *Lespedeza* understorey – pyrrhic climax
Russia	Vlad10	43.49382	133.57948	930	Pass between Partizanskaya and Kiyevka rivers	Tall, conifer / broadleaf (*Picea jezoensis*, *Abies nephrolepis*, *Betula ermanii*) forest

Country	plotID	Latitude	Longitude	Elevation	Location	Vegetation
Russia	Vlad11	43.38388	133.40269	239	Upper part of Partizanskaya river, Primorsky region	Mixed deciduous broadleaf forest dominated by *Fraxinus, Juglans, Ulmus*
Scotland	SCOT1	57.2979	-6.3577	10	Talisker distillery, Skye. Scotland	
Sweden	Abisko01	68.33333	18.71667	450	Abisko East	*Betula tortuosa* woodland
Sweden	Abisko02	68.305556	18.646944	550	Stenbakken	Arctic *Betula tortuosa* shrubland
Sweden	Abisko03	68.308333	18.646944	600	Lower slope Mt. Stenbakken	Woodland / forest mainly *Betula tortuosa* with emergent *Pinus sylvestris*
Sweden	Gothenburg01	57.67753	11.9556	29	Botanic Gardens Goteborg	Broadleaf / conifer forest
Sweden	Gothenburg02	57.67774	11.95529	38	Gothenburg botanic gardens	Calluna heath with *Betula, Pinus, Juniper*
Switzerland	Switz01	46.833333	6.983333	1000	Champery Hydro-Forest	Conifer broadleaf managed forest
Switzerland	Switz02	46.383333	6.833333	1010	Champery	Conifer-broadleaf forest
Switzerland	Switz03	46.133333	8.7	450	Monte Verita Ticino / Ascona	Broadleaf coniferous forest
U.S.A	Simab01	38.895278	-78.150278	194	Midslope	Eastern deciduous forest
U.S.A	Simab02	38.898333	-78.147778	202	Simab Research Center plot no. 8	Secondary late deciduous broad leaf forest
U.S.A	Simab03	38.393611	-78.150278	259	SIMAB Research Center	Disturb open secondary forest (grass land)
U.S.A	Simab04	38.891389	-78.151389	282	SIMAB Research Center	Grassland (meadow)
U.S.A.	NAM06	44.333333	-122.25	400	H.J. Andrews Experimental Forest	Douglas fir old-growth forest
U.S.A.	NAM07	44.333333	-122.26666	420	H. J. Marens Experimental Forest	Douglas fir stand
U.S.A.	NAM10	42.066667	-76.561944	350	Newfield New York, near Ithaca.	Old-growth conifer / deciduous
U.S.A.	NAM11	42.716111	-76.561667	340	Newfield New York, near Ithaca	Old-growth mixed conifer-deciduous forest

TABLE S2. Vegetation structure*

plotID	Ht	CCtot	ccwdy	ccnwdy	Litt	BA	Bry	Wdyplt
Abisko01	5	70	60	10	2.00	2.00	4	6
Abisko02	0.2	95	15	80	3.00	0.01	5	5
Abisko03	8	95	25	70	3.00	5.00	5	6
Austria01	23	90	85	5	3.00	20.67	3	6
CAN01	20	50			0.00	41.33	8	8
CAN02	42	65			10.00	58.00	7	6
Cauc01	28	90	75	15	10.00	32.67	8	2
Cauc02	0.05	90	2	88	0.02	0.00	0	0
Cauc03	16	75	70	5	3.00	18.00	4	3
Cauc04	12	98	85	13	3.00	24.67	3	3
Cauc05	3.5	99	70	29	4.00	21.33	3	5
Cauc06	0.08	90	5	85	0.50	0.00	4	1
Cauc07	0.3	40	15	25	0.01	0.01	6	5
ENG01	17	65			5.00	16.00	5	2
ENG02	18	60			5.00	18.00	3	2
Gothenburg01	9	98	80	18	10.00	26.67	6	9
Gothenburg02	8	95	92	3	7.00	1.33	8	9
Iceland01	0.2	10	10	0	0.01	0.01	5	4
JAP01	15	75			10.00	24.33	7	3
JAP02	3	15			0.00	3.67	7	7
Kam01	0.1	90	60	30	5.00	0.01	7	9
Kam02	0.5	98	95	3	0.50	1.00	1	9
Kam03	3	99	98	1	3.00	2.67	1	6
Kam04	16	99	80	19	12.00	12.00	2	4
Kam05	0.5	90	80	10	15.00	1.00	1	8
Kam06	15	98	90	8	20.00	12.00	9	8
Kam07	2	99	90	9	10.00	1.00	5	9
Kam08	14	99	75	24	12.00	16.67	3	3
Kam09	16	98	65	33	20.00	20.67	1	5
Kam10	14	98	40	58	18.00	25.33	2	6
Kam11	0.08	85	10	75	3.00	0.01	6	2
Kam12	0.15	70	40	30	1.00	0.01	3	8
Kam13	0.15	15	10	5	0.00	0.01	1	2
Kam14	0.1	10	8	2	0.00	0.01	9	5
Kam15	0.2	80	30	50	3.00	0.01	8	4
Kam16	0.4	45	15	30	0.20	0.10	6	5
Kam17	25	98	90	8	12.00	24.00	1	9
Kam18	2	99	5	94	5.00	0.10	0	5
Kam19	0.5	95	0	95	0.00	0.00	0	0
Kam20	0.7	98	0	98	3.00	0.00	0	0
Kam21	0.7	95	80	15	2.00	0.01	0	9
Lammi01	16	95	85	10	0.00	20.00	0	0
MNG01	8	95	40	55	8.00	11.33	3	7
MNG02	10	98	15	83	5.00	4.00	1	2
MNG03	0.4	80	10	70	0.00	0.10	0	0
MNG04	16	98	60	38	15.00	26.00	3	2
MNG05	20	90	60	30	20.00	21.00	9	8
MNG06	0.4	98	2	96	0.50	0.01	1	0
MNG07	0.03	40	0	40	0.01	0.00	0	0
MNG08	1	80	35	45	1.00	1.50	0	7
MNG09	5	60	30	30	0.00	8.00	0	0
MNG10	7	90	30	60	1.00	9.33	1	2

plotID	Ht	CCtot	ccwdy	ccnwdy	Litt	BA	Bry	Wdyplt
MNG11	0.3	90	0	90	0.40	0.00	0	0
MNG12	18	90	20	70	0.50	6.67	1	3
MNG13	19	98	65	33	15.00	19.33	5	1
MNG14	23	90	35	55	10.00	28.00	8	1
MNG15	0.05	80	0	80	0.50	0.00	1	0
MNG16	1.5	98	60	38	10.00	0.10	6	9
MNG17	16	95	30	65	5.00	16.00	1	2
MNG18	5	20	18	2	0.01	1.33	1	2
MNG19	0.25	75	0	75	0.01	0.00	0	0
MNG20	0.1	70	0	70	0.01	0.00	2	0
MNG21	0.15	75	0	75	0.05	0.00	0	0
MNG22	0.25	60	0	60	0.01	0.00	0	0
MNG23	0.35	70	15	55	0.40	0.10	0	5
MNG24	0.01	45	0	45	0.01	0.00	0	0
MNG25	0.3	20	20	0	0.00	0.01	0	5
MNG26	0.45	20	10	10	0.00	0.10	0	4
MNG27	0.05	25	10	15	0.00	0.00	0	0
MNG28	0.15	35	10	25	0.01	0.01	0	5
MNG29	6	25	20	5	0.01	11.33	0	1
MNG30	2	45	45	0	0.00	1.00	0	4
MNG31	0.8	25	25	0	0.01	0.01	0	6
MNG32	0.4	15	15	0	0.01	0.01	0	4
MNG33	0.15	10	10	0	0.00	0.00	0	0
MNG34	0.3	10	10	0	0.00	0.01	0	4
MNG35	0.25	15	3	12	0.01	0.01	0	1
MNG36	0.25	45	5	45	0.01	0.00	0	1
MNG37	0	50	35	15	0.10	0.10	1	6
MNG38	0.25	35	25	10	0.01	0.01	0	5
MNG39	0.15	65	50	15	0.00	0.00	0	4
MNG40	0.3	65	20	45	0.01	0.01	0	4
MNG41	0.15	80	0	80	0.00	0.00	0	0
MNG42	0.5	95	0	95	0.80	0.00	0	0
NAM06	40	60	-	-	8.00	43.33	8	6
NAM07	42	75	-	-	15.00	42.67	7	4
NAM10	23	65	-	-	3.00	46.67	4	3
NAM11	22	70	-	-	4.00	32.00	3	5
Narvik01	5	95	90	5	4.00	5.00	5	7
Nor01	0.25	95	1	95	7.00	0.00	10	1
Nor02	0.3	98	40	58	8.00	0.01	8	5
Ontario01	3.5	25	25	0	0.00	1.00	2	4
SCOT1	15	30	-	-	2.00	10.67	6	1
Simab01	16	45	-	-	3.00	21.33	60	8
Simab02	22	75	-	-	3.00	32.00	5	1
Simab03	8	30	-	-	1.00	24.00	4	3
Simab04	30	99	-	-	2.00	0.67	1	1
SWITZERLAND01	18	65	-	-	8.00	27.33	7	5
SWITZERLAND02	25	70	-	-	8.00	50.67	7	4
SWITZERLAND03	13	45	-	-	12.00	20.67	2	6
Vlad01	17	90	88	2	10.00	33.33	5	9
Vlad02	18	90	88	2	10.00	39.33	4	9
Vlad03	22	95	92	3	10.00	37.33	5	9
Vlad04	20	80	78	2	12.00	35.33	6	7
Vlad05	30	90	85	5	15.00	26.00	5	9
Vlad06	17	85	82	3	10.00	33.33	4	8
Vlad07	16	85	84	1	10.00	29.33	4	9

plotID	Ht	CCtot	ccwdy	ccnwdy	Litt	BA	Bry	Wdyplt
Vlad08	23	95	90	5	3.00	28.00	2	7
Vlad09	15	90	80	10	5.00	13.33	1	9
Vlad10	26	98	90	8	15.00	36.00	5	6
Vlad11	18	99	90	9	5.00	29.33	1	7

*Ht = mean canopy height (m); CC tot (total projected crown cover %); CCwoody (projected crown cover % woody plants); CC nwoody (projected crown cover % non-woody plants); BA (basal area m^2 ha^{-1}); Litt. (litter depth (cm)); Bryophyte cov. abund. (cover abundance Domin scale). Wdyplt (woody plants >2m tall (cover abundance Domin scale))

TABLE S3. Species, PFTs and derived variables*

Transect ID	Spp	PFT	Sprat	Shan	Simp Inv	PFC	PFT MDS
Abisko01	7	6	1.17	1.75	0.82	58	-0.109
Abisko02	7	6	1.17	1.75	0.82	38	-0.030
Abisko03	6	5	1.20	1.56	0.78	52	0.024
Austria01	22	15	1.47	2.61	0.92	108	0.756
CAN01	9	9	1.00	2.20	0.89	110	0.288
CAN02	11	11	1.00	2.40	0.91	92	0.726
Cauc01	34	24	1.42	3.08	0.95	174	0.553
Cauc02	24	18	1.33	2.67	0.91	120	-0.474
Cauc03	15	14	1.07	2.60	0.92	122	0.629
Cauc04	28	21	1.33	2.91	0.94	134	0.388
Cauc05	46	35	1.31	3.43	0.96	198	0.071
Cauc06	32	24	1.33	3.03	0.94	124	-0.557
Cauc07	45	29	1.55	3.21	0.95	154	-0.065
ENG01	11	11	1.00	2.37	0.90	112	0.778
ENG02	18	19	0.95	2.94	0.95	144	0.713
Gothenburg01	11	11	1.00	2.40	0.91	132	0.311
Gothenburg02	8	8	1.00	2.08	0.87	98	0.506
Iceland01	8	7	1.14	1.91	0.84	38	-0.521
JAP01	10	6	1.67	1.61	0.76	40	0.902
JAP02	9	8	1.13	2.04	0.86	78	0.532
Kam01	28	16	1.75	2.60	0.91	90	-0.600
Kam02	8	6	1.33	1.67	0.78	44	-0.634
Kam03	8	9	0.89	2.20	0.89	90	-0.520
Kam04	15	14	1.07	2.62	0.92	90	0.342
Kam05	34	24	1.42	3.07	0.95	132	-0.209
Kam06	11	9	1.22	2.15	0.88	74	0.085
Kam07	43	28	1.54	3.19	0.95	162	-0.192
Kam08	35	22	1.59	2.96	0.94	138	0.464
Kam09	29	15	1.93	2.47	0.89	94	0.281
Kam10	46	26	1.77	3.04	0.94	112	0.375
Kam11	44	25	1.76	2.90	0.92	114	-0.585
Kam12	56	25	2.24	2.80	0.91	110	-0.312
Kam13	22	16	1.38	2.69	0.93	64	-0.218
Kam14	18	11	1.64	2.25	0.88	48	-0.629
Kam15	31	16	1.94	2.50	0.89	72	-0.387
Kam16	17	11	1.55	2.20	0.86	46	-0.621
Kam17	14	14	1.00	2.62	0.92	82	0.680
Kam18	31	19	1.63	2.71	0.92	78	0.595
Kam19	5	5	1.00	1.61	0.80	32	0.062
Kam20	15	12	1.25	2.40	0.90	82	-0.478
Kam21	30	16	1.88	2.57	0.91	82	-0.124
Lammi01	12	11	1.09	2.35	0.90	68	0.153
MNG01	26	20	1.30	2.84	0.93	118	0.415
MNG02	25	21	1.19	2.96	0.94	132	0.138
MNG03	40	24	1.60	2.98	0.93	162	-0.379
MNG04	40	25	1.60	2.86	0.91	188	0.339
MNG05	21	18	1.17	2.82	0.93	170	0.457

Transect ID	Spp	PFT	Sprat	Shan	Simp Inv	PFC	PFT MDS
MNG06	10	9	1.11	2.16	0.88	52	-0.753
MNG07	3	3	1.00	1.10	0.67	38	-0.907
MNG08	19	13	1.46	2.45	0.90	90	-0.545
MNG09	7	7	1.00	1.95	0.86	64	-0.659
MNG10	31	22	1.41	2.99	0.94	116	-0.365
MNG11	17	11	1.55	2.28	0.89	60	-0.621
MNG12	19	15	1.27	2.63	0.92	122	-0.382
MNG13	29	23	1.26	3.03	0.94	160	0.265
MNG14	21	18	1.17	2.84	0.94	138	-0.029
MNG15	12	7	1.71	1.82	0.82	24	-0.723
MNG16	30	16	1.88	2.64	0.92	72	-0.204
MNG17	21	16	1.31	2.60	0.90	86	-0.143
MNG18	11	10	1.10	2.27	0.89	80	-0.952
MNG19	10	7	1.43	1.83	0.82	44	-0.746
MNG20	18	8	2.25	1.83	0.80	34	-0.847
MNG21	5	4	1.25	1.33	0.72	24	-1.248
MNG22	13	9	1.44	2.07	0.86	46	-0.842
MNG23	5	5	1.00	1.61	0.80	58	-0.481
MNG24	6	4	1.50	1.24	0.67	30	-0.967
MNG25	1	1	1.00	0.00	0.00	0	-0.397
MNG26	8	6	1.33	1.73	0.81	46	-1.087
MNG27	7	4	1.75	1.28	0.69	20	-1.283
MNG28	14	8	1.75	1.93	0.84	56	-0.991
MNG29	6	6	1.00	1.79	0.83	46	-1.009
MNG30	3	2	1.50	0.64	0.44	8	-1.328
MNG31	1	2	0.50	0.69	0.50	8	-1.094
MNG32	8	9	0.89	2.20	0.89	52	-1.098
MNG33	2	2	1.00	0.69	0.50	6	-1.354
MNG34	3	3	1.00	1.10	0.67	22	-0.214
MNG35	5	5	1.00	1.61	0.80	62	-0.812
MNG36	7	7	1.00	1.95	0.86	72	-1.092
MNG37	10	8	1.25	2.03	0.86	42	-0.279
MNG38	10	10	1.00	2.30	0.90	88	-0.856
MNG39	14	8	1.75	1.77	0.77	42	-0.870
MNG40	9	9	1.00	2.20	0.89	84	-0.904
MNG41	8	7	1.14	1.91	0.84	64	-1.180
MNG42	31	15	2.07	2.36	0.87	58	-0.544
NAM06	13	13	1.00	2.56	0.92	112	1.154
NAM07	10	9	1.11	2.16	0.88	110	1.102
NAM10	11	10	1.10	2.27	0.89	144	1.447
NAM11	10	9	1.11	2.16	0.88	94	1.525
Narvik01	9	7	1.29	1.89	0.84	52	0.004
Nor01	33	21	1.57	2.84	0.93	138	-0.231
Nor02	30	26	1.15	3.20	0.96	180	-0.335
Ontario01	5	4	1.25	1.33	0.72	36	-0.212
SCOT1	15	13	1.15	2.52	0.92	116	-0.275
Simab01	31	24	1.29	3.09	0.95	142	0.493
Simab02	27	22	1.23	2.95	0.93	124	0.997
Simab03	26	21	1.24	2.94	0.94	152	0.698

Transect ID	Spp	PFT	Sprat	Shan	Simp Inv	PFC	PFT MDS
Simab04	37	25	1.48	3.08	0.95	144	-0.128
SWITZ01	15	13	1.15	2.52	0.92	124	1.110
SWITZ02	12	12	1.00	2.48	0.92	136	1.143
SWITZ03	16	13	1.23	2.51	0.91	134	1.162
Vlad01	33	22	1.50	2.98	0.94	114	1.082
Vlad02	23	17	1.35	2.69	0.92	126	1.458
Vlad03	26	19	1.37	2.81	0.93	158	1.310
Vlad04	18	15	1.20	2.63	0.92	124	1.321
Vlad05	31	23	1.35	3.04	0.95	152	1.340
Vlad06	30	21	1.43	2.89	0.93	120	1.430
Vlad07	22	16	1.38	2.65	0.92	86	1.426
Vlad08	70	29	2.41	3.04	0.94	144	1.233
Vlad09	55	24	2.29	2.91	0.93	108	0.659
Vlad10	37	23	1.61	2.97	0.94	114	1.275
Vlad11	64	32	2.00	3.07	0.93	156	1.434

* SPP= species, PFT= plant functional type, Sprat= Spp:PFT ratio, Shan=Shannon index, SimpInv= Simpson diversity index (1-D), PFC=Plant Functional Complexity measure, PFT MDS= first MDS axis values for PFTs

TABLE S4**.** Climate values used in this analysis*

Transect	Precip.	Min Temp.	ATET
Abisko01	757	-14.00	178
Abisko02	757	-14.00	178
Abisko03	757	-14.00	178
Austria01	617	-3.00	517
CAN01	3257	1.40	457
CAN02	3048	1.60	347
Cauc01	738	-4.00	635
Cauc02	659	-10.00	554
Cauc03	637	-9.00	613
Cauc04	799	-17.00	532
Cauc05	799	-17.00	532
Cauc06	799	-17.00	532
Cauc07	799	-17.00	532
ENG01	1061	3.00	391
ENG02	780	1.00	322
Gothenburg01	666	-1.00	364
Gothenburg02	666	-1.00	364
Iceland01	798	1.90	207
JAP01	1649	-6.00	819
JAP02	1407	-6.00	750
Kam01	841	-14.00	-
Kam02	621	-19.00	-
Kam03	621	-19.00	-
Kam04	642	-16.00	335
Kam05	758	-18.00	292
Kam06	560	-23.00	255
Kam07	518	-24.00	294
Kam08	518	-24.00	294
Kam09	454	-21.00	232
Kam10	454	-21.00	232
Kam11	477	-23.00	226
Kam12	477	-23.00	226
Kam13	549	-23.00	247
Kam14	477	-23.00	226
Kam15	477	-23.00	226
Kam16	454	-21.00	232
Kam17	454	-21.00	232
Kam18	825	-12.00	324
Kam19	725	-17.00	-
Kam20	725	-17.00	-
Kam21	725	-17.00	-
Lammi01	594	-9.00	316
MNG01	208	-25.00	291
MNG02	208	-25.00	291
MNG03	230	-25.00	325
MNG04	230	-25.00	325
MNG05	230	-25.00	325
MNG06	222	-24.00	312
MNG07	233	-24.00	325
MNG08	265	-24.00	376
MNG09	265	-24.00	376
MNG10	324	-25.00	357
MNG11	231	-24.00	391

Transect	Precip.	Min Temp.	ATET
MNG12	209	-24.00	299
MNG13	180	-27.00	282
MNG14	187	-26.00	283
MNG15	187	-26.00	283
MNG16	184	-27.00	292
MNG17	184	-27.00	292
MNG18	200	-28.00	300
MNG19	191	-31.00	299
MNG20	191	-31.00	299
MNG21	179	-31.00	302
MNG22	172	-30.00	306
MNG23	164	-27.00	304
MNG24	155	-18.00	298
MNG25	155	-18.00	298
MNG26	157	-21.00	298
MNG27	145	-27.00	258
MNG28	135	-21.00	209
MNG29	126	-18.00	116
MNG30	125	-20.00	124
MNG31	117	-16.00	69
MNG32	125	-16.00	91
MNG33	125	-16.00	91
MNG34	125	-16.00	91
MNG35	132	-19.00	83
MNG36	156	-22.00	123
MNG37	165	-24.00	139
MNG38	172	-19.00	173
MNG39	178	-21.00	211
MNG40	177	-24.00	191
MNG41	196	-26.00	246
MNG42	204	-26.00	266
NAM06	683	-2.00	365
NAM07	953	3.00	504
NAM10	904	-5.00	618
NAM11	825	-4.00	607
Narvik01	580	-7.00	175
Nor01	1205	-2.00	-
Nor02	1205	-2.00	-
Ontario01	722	-15.00	437
SCOT1	1350	2.40	-
Simab01	984	1.00	701
Simab02	984	1.00	701
Simab03	1011	2.00	736
Simab04	984	1.00	701
SWITZERLAND01	1375	-1.00	511
SWITZERLAND02	1084	-1.00	533
SWITZERLAND03	899	-6.00	543
Vlad01	470	-12.00	509
Vlad02	470	-12.00	509
Vlad03	470	-12.00	509
Vlad04	470	-12.00	509
Vlad05	470	-12.00	509
Vlad06	470	-12.00	509
Vlad07	470	-12.00	509
Vlad08	499	-15.00	-

Transect	Precip.	Min Temp.	ATET
Vlad09	499	-15.00	-
Vlad10	588	-16.00	526
Vlad11	588	-16.00	526

* Precip. = precipitation (mm yr^{-1}), Min tmp = mean minimum monthly temperature. ATET = annual total actual evapotranspiration (mm yr^{-1})

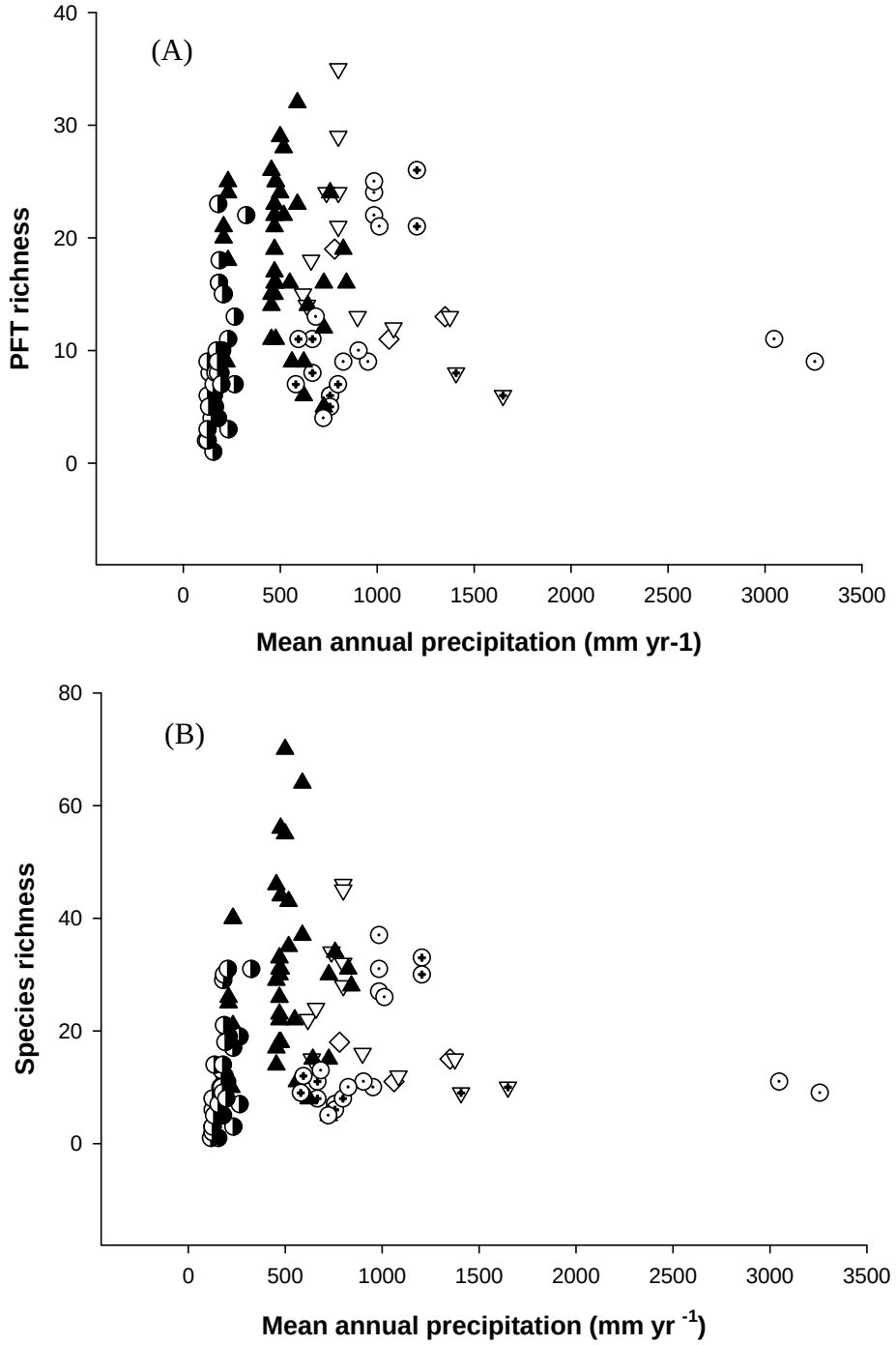

Figure S1. PFT (A) and species richness (B) against mean annual precipitation

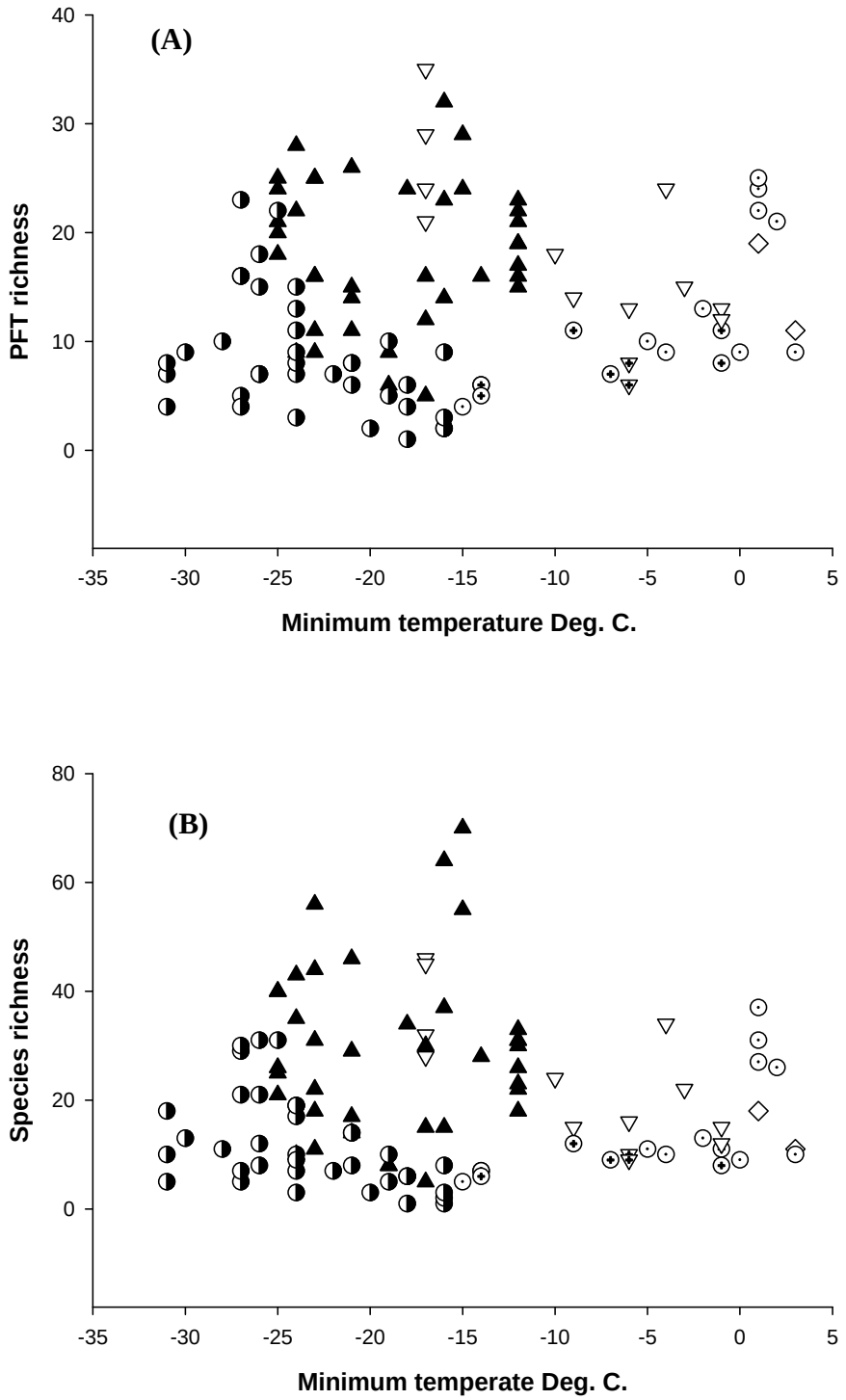

Figure S2. PFT (A) and species (B) richness against minimum temperature

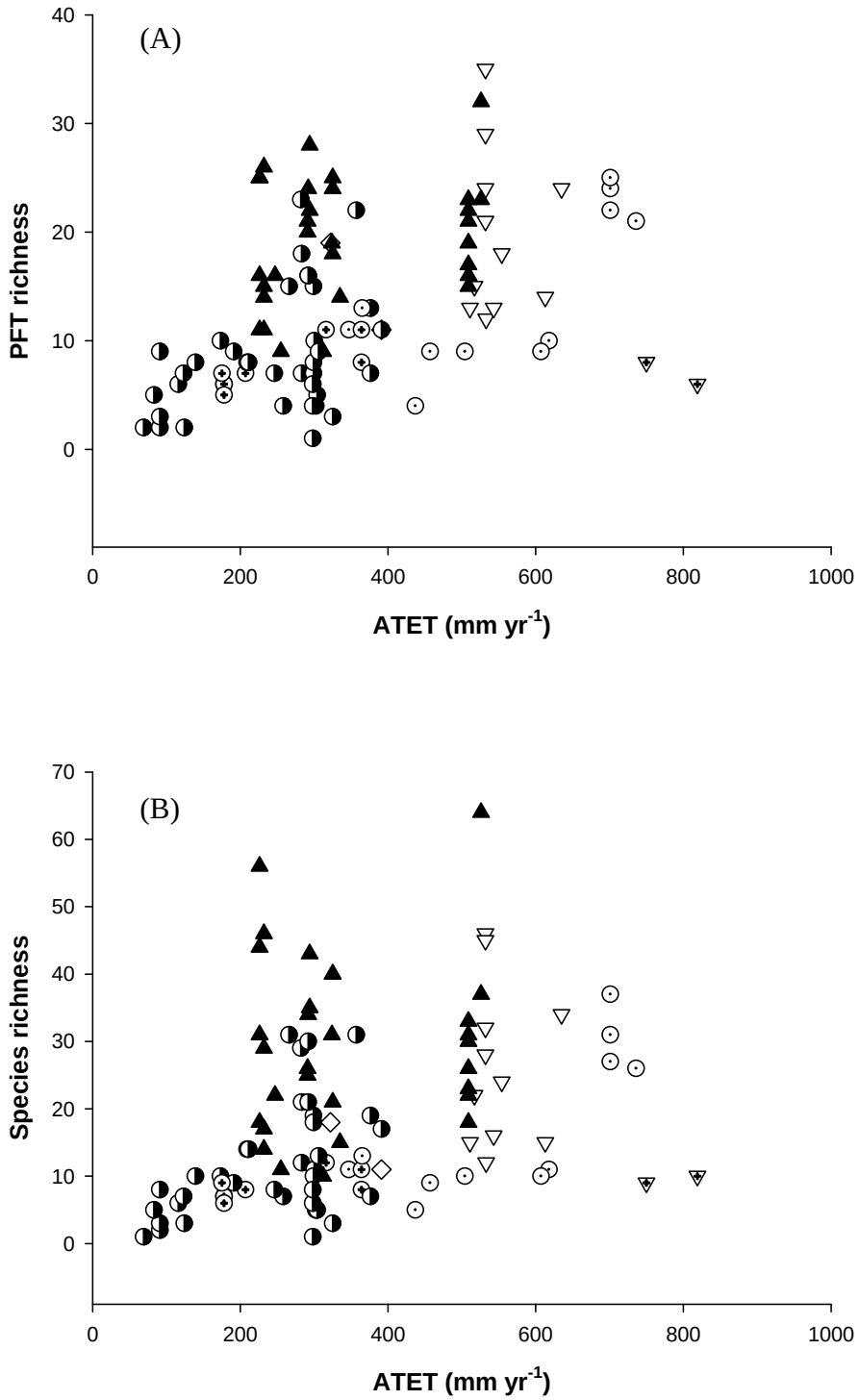

Figure S3. Species and PFT richness against ATET