Table S2. Summary of the main characteristics of sites along the five transects. Table contains altitude depth of the surface organic layer, depth of loose mineral deposits, the fraction coarse fragments, the land cover class and generalized reference soil groups according to the FAO World Reference Base for soils (IUSS Working Group WRB, 2007). A generalized description of the main soil classification criterion is included.

Sample site	Altitude (m.a.s.l.)	Organic layer depth	Mineral layer depth	Coarse fragments (> 2mm) [weight %]	Land cover class	WRB Reference Soil Groups	Generalized classification criterion
Transect 1							
TA T1-1	1559 m	0 cm	> 70 cm	25.5	Sand/Gravel	(Turbic) Cryosols	Signs of cryoturbation (patterned ground) with permafrost in the upper 2 m
TA T1-2	1542 m	0 cm	30 cm	45.8	Sand/Gravel	(Turbic) Cryosols	Signs of cryoturbation (patterned ground) with permafrost in the upper 2 m
TA T1-3	1518 m	1.5 cm	70 cm	37.5	Stones	(Turbic) Cryosols	Signs of cryoturbation (patterned ground) with permafrost in the upper 2 m
TA T1-4	1485 m	4 cm	17 cm	0.1	Patchy boulder Moss	(Turbic) Cryosols	Signs of cryoturbation (patterned ground) with permafrost in the upper 2 m
TA T1-5	1437 m	0 cm	no sampling	1.2	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-6	1372 m	0 cm	no sampling	0.0	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-7	1299 m	0 cm	no sampling	15.5	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-8	1247 m	0 cm	no sampling	0.0	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-9	1204 m	0 cm	no sampling	0.0	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-9B	1202 m	20 cm	70 cm	0.8	Patchy boulder Gras/Moss	Regosol	Soil with limited/insignificant soil genetic horizon development
TA T1-10	1179 m	2 cm	no sampling	7.8	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-11	1162 m	4 cm	37 cm	38.4	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-12	1141 m	3.5 cm	38 cm	43.9	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-13	1119 m	3 cm	75 cm	0.5	Patchy boulder Moss	Regosol	Soil with limited/insignificant soil genetic horizon development
TA T1-14	1122 m	0 cm	80 cm	18.2	Sand/Gravel	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T1-15	1154 m	0 cm	no sampling	25.3	Stones	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons

Transect 2

TA T2-1	1174 m	2 cm	70 cm	35.4	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-2	1175 m	4 cm	48 cm	42.4	Patchy boulder Moss	Regosol	Soil with limited/insignificant soil genetic horizon development
TA T2-3	1175 m	0 cm	40 cm	62.9	Sand/Gravel	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-4	1171 m	2 cm	12 cm	44.8	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-5	1174 m	4 cm	36 cm	24.4	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-6	1166 m	3.5 cm	30cm	1.5	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-7	1161 m	5 cm	15 cm	2.1	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-8	1159 m	4 cm	> 70 cm	34.4	Patchy boulder Gras/Moss	Regosol	Soil with limited/insignificant soil genetic horizon development
TA T2-9	1161 m	6 cm	23 cm	13.7	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-10	1144 m	4 cm	20 cm	41.7	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-11	1114 m	6 cm	37 cm	1.2	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-12	1103 m	5.5 cm	17 cm	44.3	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-13	1076 m	5 cm	14 cm	22.9	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-14	1045 m	5 cm	44 cm	34.4	Patchy boulder Gras/Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T2-15	993 m	4 cm	> 85 cm	35.5	Patchy boulder Gras/Moss	Regosol	Soil with limited/insignificant soil genetic horizon development

Transect 3

TA T3-1	1177 m	1.5 cm	25 cm	5.7	Patchy boulder Moss	Fluvisol	Poorly developed soil in fluvial sediments
TA T3-2	1186 m	0 cm	85 cm	12.6	Sand/Gravel	Fluvisol	Poorly developed soil in fluvial sediments
TA T3-3	1174 m	0 cm	70 cm	34.4	Sand/Gravel	Fluvisol	Poorly developed soil in fluvial sediments
TA T3-4	1181 m	0 cm	13 cm	19.7	Sand/Gravel	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T3-5	1161 m	1.5 cm	10 cm	26.4	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T3-6	1180 m	0 cm	30 cm	38.7	Sand/Gravel	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T3-7	1166 m	0 cm	30 cm	47.5	Patchy boulder Moss	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T3-7B	1161 m	0 cm	> 80 cm	5.2	Patchy boulder Moss	Regosol	Soil with limited/insignificant soil genetic horizon development

Transect 4

TA T4-1	864 m	2 cm	20 cm	0.2	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T4-2	824 m	2.5 cm	10 cm	4.5	Shrub	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T4-3	795 m	6 cm	27 cm	4.7	Shrub	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons

Transect 5

TA T5-1	744 m	10 cm	25 cm	13.1	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-2	713 m	1 cm	10 cm	6.7	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-3	675 m	4 cm	no sampling	0.0	Birch Forest	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-4	658 m	6 cm	48 cm	22.1	Birch Forest	Cambisol	Moderately developed soil, with some development of soil horizons
TA T5-5	636 m	2 cm	24 cm	0.6	Birch Forest	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-6	625 m	0 cm	no sampling	0.0	Shrub	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-7	615 m	4.5 cm	14 cm	2.9	Shrub	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-8	599 m	2 cm	6 cm	3.0	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-9	590 m	2 cm	10 cm	0.0	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-10	581 m	8 cm	27 cm	1.0	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-11	576 m	6 cm	29 cm	2.5	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-12	566 m	3.5 cm	10 cm	0.6	Tundra Meadow	Leptosol	Shallow, stony soil with little or no development of soil genetic horizons
TA T5-13	562 m	7 cm	> 80 cm	1.6	Tundra Meadow	Cambisol	Moderately developed soil, with some development of soil horizons

Reference:

IUSS Working Group WRB: World reference base for soil resources, 2006, 2nd ed., World Soil Resources Reports, 103, FAO, Rome, pp. 143, 2006.