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Supplement of

A high spatial resolution soil carbon and nitrogen dataset for the northern permafrost region based on circumpolar land cover upscaling

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Site name			Coordinates		Photographs / Camera
					site pit
Date			observer(s)		

General site discription (sketch on following side)

Depth frozen AL	Depth Top Permafrost	PF Table Form (even,wavy)	Transient Layer ~from-to	Water table calculate as negative. Soil surface is =0!	Drainage(dry, moist, wet, waterlogged)	Mudboils (non, few, a lot, active yes/little/no):	Tussocks (non, few, a lot):	Elevation	Slope (°)	Aspect

SOIL CLASSIFICATION:						Max depth:		reason for max depth eg. pipe length, stone(s), bedrock:		
Depth up - low	HORIZON Master, Suffix, Modifier If per Horizon, then sample all horizon!		Texture sand/silt /clay	Notes – Horizon boundries smooth/wavy/broken?		Munsell color	Colour and REDOX features Y/N	Roots Size: fine, medium,	throught, horizonboundd, in cracks; few,common ,many	Not sampled COARSE FRAGMENTS in %
0-11	Oi1		peat	Example	Oi on Hummock	5YR 4/4	n	f/t/m		20 %'

Sample description										
OL1/ PP / RC /C14	Depth	Dimensions	Horizon	Texture	Notes (color/material)	CryoT/SynG / Buried (1/2/3)	Redox features??	roots (f/m/C) (t/h/l) (f,c,m)	vis. ice %	ice struc. (lens, vein,net,suspended,ice wedge)
	0-5	0x0x0cm								
Example:										
OL1	0-5	5x5x6	Oi	organics	very fibric peat	-	OM /no	f/t/m	0	-
pp	80-90		Cf	Silty fine sand	Darkbrown with red moddles	CT2	Silt / red moddles	no	5 %'	poreice

reason for max depth eg. pipe length, stone(s), bedrock:

Site name/ Plot nr.	Coordinates	Photographs

Date

Observer(s)

Sketch and additional notes:

i.e. topography, mircotopography, valley, depression, top of palsa, alas, frost boils, polygon position (center/rim/trough), etc..

Landform (x or text) (sketch on next side):			
Flat terrain		Moraine	
Yedoma		Talus	
Fluvial (bed, terrace)		Fen (groundw.)	
Palsa		Bog (rainw.)	
Hillslope (ridge/mid/toe)		Ice-wedge polygon (low/high?) (center/rim/trough; sketch!!!)	
Alluvial fan			
Aeolean deposit			
Lacrustine		Other:	

Parent Material of pit chose from the following or describe:		
Sphagnum peat	Moss	Parent Material P1:
Sedge peat		
Mineral	Yedoma	Parent Material P2:
Fluvial (clay, sand, gravel)	Moraine	
Colluvial	Bedrock (Type?)	Parent Material P3:
Notes:		

Sketch and additional notes:

i.e. topography, mircotopography, valley, depression, top of palsa, alas, frost boils, polygon position (center/rim/trough), etc..

Make sketch for position in ice-wedge polygon!!!

Vegetation sampling	percentage coverage from above with mass in mind on 1x1m basis				**Additional Notes**
Quadrat size (cm x cm)				Heights	If trees or shrubs higher than 2m present, make additional notes on 5x5m or 10x10m basis.
Plant functional Type	Rep1	Rep2	Rep3	(cm)	
Evergreen shrubs (eg. Cassiope, Ledum, Vaccinum, dryas, (Most berries))					
Decidious shrubs (eg. Betula, Salix, Alnus)					
Sedges (Eriophorum, Carex) (triangular stem!)					
Grasses and rushes (round stem)					
Forbs (broad-leaved herbacious non grass)					
Sphagnum Moss					
Mosses (if present, record green and brown tissue heights/depths seperately)					
Lichens					
Litter on/in vegetation					
Rock and stones					
Bare soil					
Water					

Figure S1. Field sampling protocol for permafrost soils and vegetation sampling. Each sampling site is labeled, marked with exact coordinates and photographed. The surrounding area is described in more detail (topography, geomorphology, landform or any other features of interest) with a sketch of the area carrying additional important notes. When the sampling starts, additional notes are taken about active layer, permafrost table, water table, drainage, slope, orientation, etc. Excavated pedon is described with regards to the used soil classification and each sample is labelled, packed and described (soil texture, stones, visible ice, signs of cryoturbation, color, size, roots, etc). Additionally, space is allocated for vegetation description and sampling.