

Ecography

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Supplementary material

Appendix 1

Legends for supplementary material appendices:

Table A1: Geographical distances (km) between ponds located within the same valley or among different valleys.

Figure A2: Changes in β -diversity as a function of environmental heterogeneity, assessed by Euclidean distances among sites for the main environmental variables (a) and trophic status as measured by total phosphorus concentration (b). For each pond, β -diversity was calculated as the average Hellinger dissimilarity of pairwise comparisons between that pond and all other ponds in the region. Each dot represents an individual pond. The line represents a least-squares linear regression and shading refers to confidence intervals at 0.95. The size of the closed circles is proportional to OTU richness of that pond, and the color coding is for geographic location as in Figure 1: green, BGR; orange, NAS; purple, KWK; brown, SAS; and blue, RBL.

Figure A3: Community structure along the permafrost gradient: a- Non-metric multi-dimensional scaling (MDS) ordinations based on β_{RC} (Raup-Crick). Symbols represent individual ponds and lakes: open squares from RBL valley, diamonds from thaw ponds located within the sporadic permafrost landscape with purple and brown diamond referring to ponds originating from KWK and SAS valleys respectively, circles correspond to thaw ponds located within the discontinuous permafrost landscape with green and orange circles referring to ponds originating from BGR and NAS valleys respectively. Ellipses correspond to landscape confidence intervals at 0.95, with black lined, dashed and dotted ellipses referring to reference lakes, sporadic and discontinuous

permafrost regions respectively. b- Multivariate dispersion of β_{RC} among landscape types.

Table A1: Geographical distances (km) between ponds located within the same valley or among different valleys.

Valleys	Within valley			Among valleys		
	mean	min	max	mean	min	max
RBL	6.5	0.26	12.5	103.1	6.8	201.4
SAS	0.7	0.04	1.1	108.5	6.8	207.1
KWK	0.2	0.04	0.4	119.5	8.3	190.8
BGR	0.2	0.02	0.3	126.9	36.2	180.9
NAS	0.1	0.02	0.2	154.4	36.2	207.1



