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Supplement of

Glacier loss and vegetation expansion alter organic and inorganic carbon dynamics in high-mountain streams

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Supplementary information

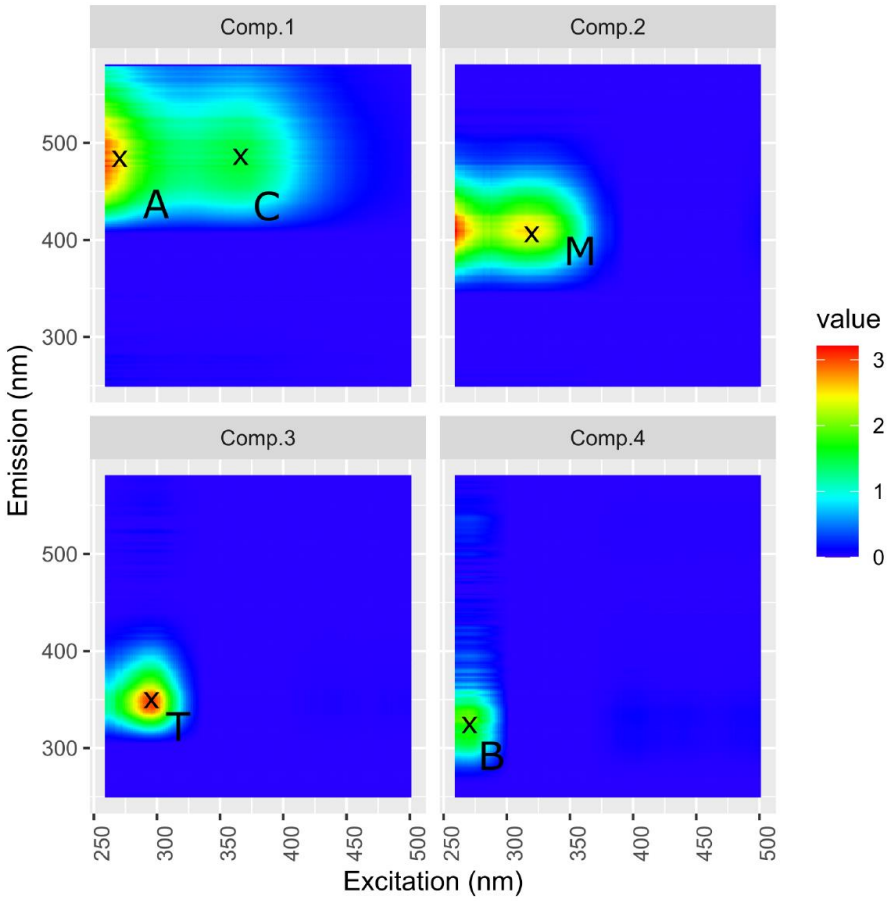

Figure S1: Contour plots that describe emission intensities as a function of excitation wavelengths for the four components of the PARAFAC model. The approximate location of the five Coble peaks are overlaid (Coble et al., 1998, 1990).

Table S1: Partial least squares (PLS) model VIP scores and coefficients for variables identified as highly (VIP ≥ 1.0) or moderately (0.8 ≤ VIP < 1.0) influential in predicting median CO_2 saturation.

Variable	VIP score	Coefficient
Specific conductivity	3.03	-0.43
Sulfate	1.86	0.10
Calcium	2.04	0.68
DOC	0.77	-0.09
Total suspended solids	1.66	-0.82
Elevation	2.67	0.48
Catchment area	1.73	-0.53
Runoff	1.45	0.74
Catchment glacier cover	1.95	-0.31
Catchment vegetation cover	1.31	-0.45

Table S2: Median concentration and interquartile range or major ions measured at the twelve monitoring sites.

Site	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	Cl^{-}	SO_4^{2-}	NO_3^{-}
VAU	23.3 (9.9)	5.1 (3.3)	0.73 (0.26)	0.57 (0.39)	0.11 (0.06)	37.8 (25.2)	0.59 (0.27)
VAD	22.7 (8.6)	4.7 (2.9)	0.67 (0.20)	0.65 (0.47)	0.11 (0.05)	36.5 (16.8)	0.52 (0.30)
VEL	21.1 (11.1)	6.5 (3.9)	0.64 (0.14)	0.88 (0.25)	0.12 (0.05)	27.9 (20.0)	0.43 (0.30)
FEU	46.5 (16.4)	6.5 (3.4)	0.27 (0.12)	0.53 (0.73)	0.28 (0.42)	51.2 (29.7)	0.49 (0.18)
FED	56.5 (15.6)	6.3 (3.2)	0.29 (0.11)	0.89 (0.71)	0.53 (0.58)	55.4 (39.1)	0.45 (0.20)
PEU	70.7 (48.3)	7.4 (5.4)	0.21 (0.14)	0.32 (0.33)	0.31 (0.16)	100 (110)	0.22 (0.08)
ANU	38.9 (5.1)	3.6 (0.7)	0.13 (0.06)	0.30 (0.26)	0.12 (0.08)	12.9 (5.3)	0.79 (0.31)
AND	40.5 (6.0)	3.8 (0.9)	0.12 (0.09)	0.35 (0.18)	0.15 (0.13)	14.2 (6.0)	0.76 (0.30)
RIC	46.6 (13.4)	5.3 (1.0)	0.12 (0.07)	0.32 (0.20)	0.16 (0.09)	11.6 (3.7)	0.85 (0.28)
VIU	56.3 (14.2)	8.1 (2.8)	0.33 (0.15)	1.4 (0.3)	0.20 (0.11)	53.0 (31.2)	0.24 (0.20)
VIM	48.8 (13.4)	7.0 (2.4)	0.41 (0.16)	1.4 (0.7)	0.18 (0.25)	35.5 (19.2)	0.27 (0.14)
VID	87.0 (50.0)	11.1 (4.3)	0.48 (0.25)	1.4 (1.0)	0.34 (0.17)	132 (133)	0.65 (0.31)