Global Biogeochemical Cycles

Supporting information for

Arctic permafrost thawing enhances sulfide oxidation

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Appendix S1: Ion chromatography

Table S1: Measured major ion concentrations in reference materials and precision of replicate sample measurements. For reference materials, measured values are given as μ ± 1σ in units of μM, the number of analyses is indicated in parentheses, and measured relative standard deviation (RSD) are given as 1σ. Switzer Falls, an in-house consistency standard, was repeatedly measured but does not have expected values. Reference material variables without listed values, such as Cl^- in CRANBERRY-05 or Mg^{2+} in Switzer Falls, reflect that values were outside the calibration range. Sample values are the mean, median, 1σ standard deviation, and number of analyses for the distribution of RSDs among replicate measurements.

ANIONS						
	SO_4^{2-}			**Cl^-**		
References	*Expected*	*Measured*	*RSD*	*Expected*	*Measured*	*RSD*
SUPER-05	36.2	37.1 ± 1.4 (11)	3.9%	39.5	42.5 ± 0.9 (14)	2.1%
CRANBERRY-05	92.5	96.2 ± 3.4 (10)	3.5%			
MAURI-09	39.5	38.6 ± 1.2 (14)	3.1%	41.5	43.7 ± 3.2 (17)	7.3%
Switzer Falls		318.1 ± 3.7 (9)	1.2%			
Samples	*Mean / median of replicate RSDs*			*Mean / median of replicate RSDs*		
	1.9 / 1.1 ± 2.0% (45)			14.4 / 7.4 ± 18.4% (64)		
CATIONS						
	Ca^{2+}			**Mg^{2+}**		
References	*Expected*	*Measured*	*RSD*	*Expected*	*Measured*	*RSD*
SUPER-05	339.3	347.4 (1)		116.4	120.6 (1)	
CRANBERRY-05	324.4	352.0 ± 11.7 (2)	3.3%	232.0	241.8 ± 0.7 (2)	0.3%
MAURI-09	73.4	79.6 ± 9.6 (3)	12.1%	30.9	31.3 ± 1.0 (4)	3.2%
Switzer Falls						
Samples	*Mean / median of replicate RSDs*			*Mean / median of replicate RSDs*		
	1.1 / 0.7 ± 1.1% (15)			1.8 / 1.6 ± 1.6% (17)		
	Na^+			**K^+**		
References	*Expected*	*Measured*	*RSD*	*Expected*	*Measured*	*RSD*
SUPER-05	62.2	63.3 (1)		12.9	12.5 (1)	
CRANBERRY-05				17.9	18.6 ± 0.0 (2)	0.1%
MAURI-09	95.7	97.3 ± 2.3 (4)	2.4%	10.4	10.1 ± 0.4 (6)	4.4%
Switzer Falls					89.2 ± 0.2 (2)	0.3%
Samples	*Mean / median of replicate RSDs*			*Mean / median of replicate RSDs*		
	2.2 / 1.8 ± 2.2% (24)			3.5 / 3.0 ± 2.6% (13)		

Appendix S2: Field context and extended data analysis

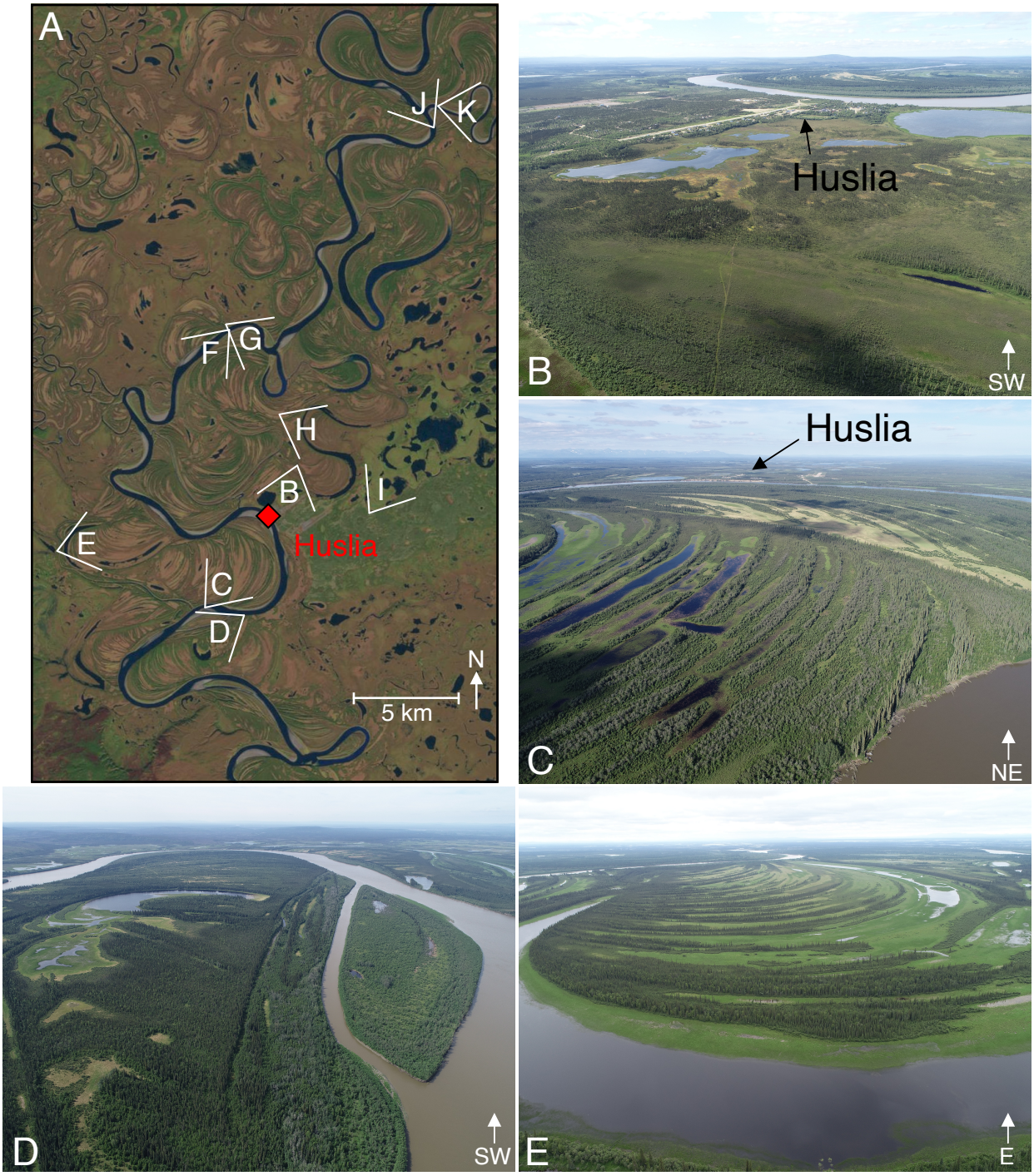

Fig. S1: Overview of field site. (A) Map of field site with approximate locations and image orientations of 10 drone photographs. (B) The village of Huslia. (C) The river bend near Huslia, with scroll bar complex. (D) The most downstream sampled stretch of the Koyukuk River. (E) Looking towards Huslia from the tip of an abandoned meander, with visible scroll bars.