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Supplement of

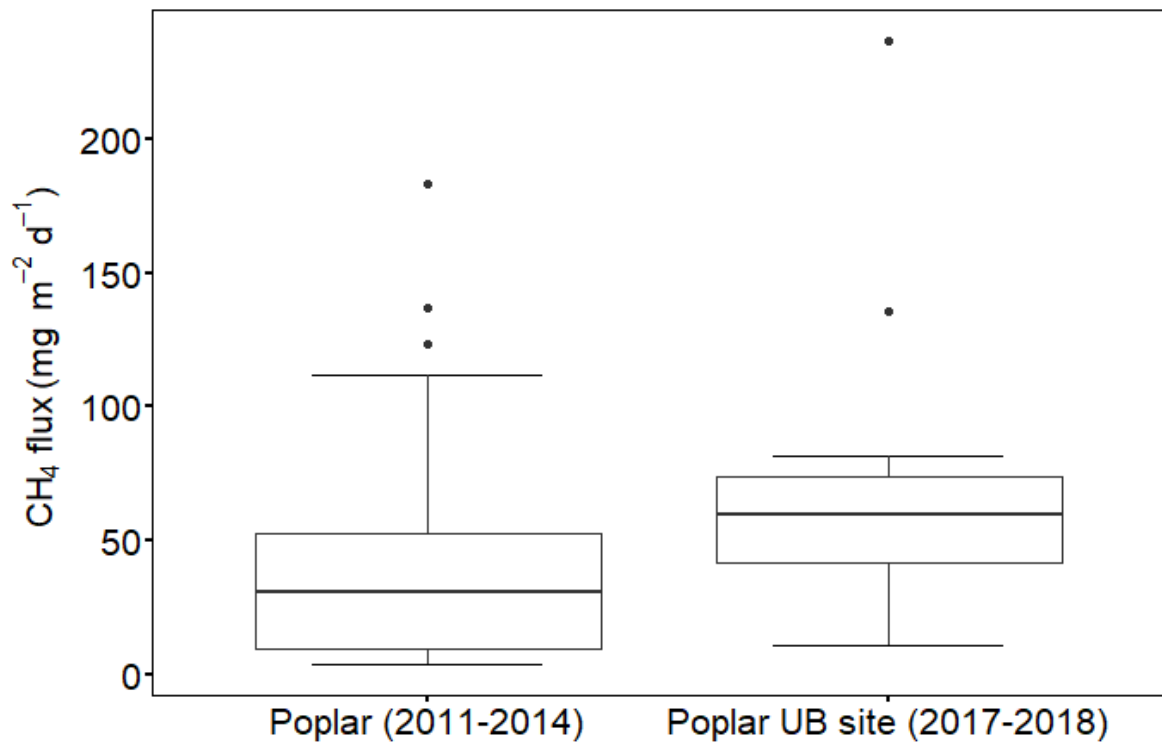
Wildfire overrides hydrological controls on boreal peatland methane emissions

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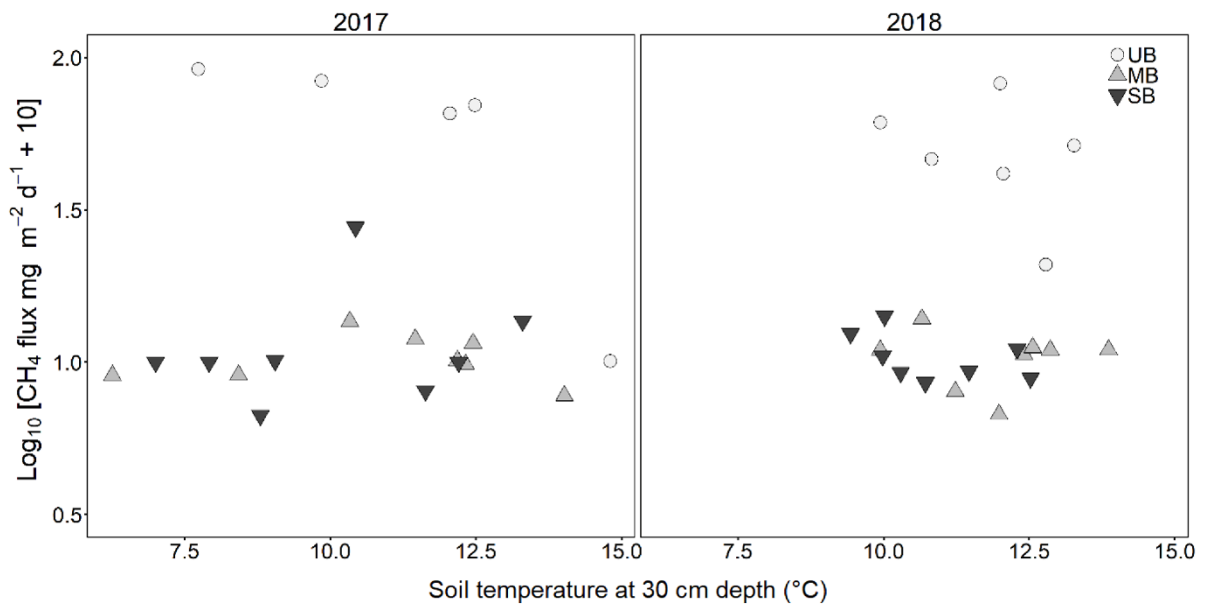
1 **Supplementary information**



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3 **Figure S1. Comparison of CH₄ emissions between a study conducted at Poplar Fen (2011-2014;**
4 **Murray *et al.*, 2017) and this study (UB site only).**

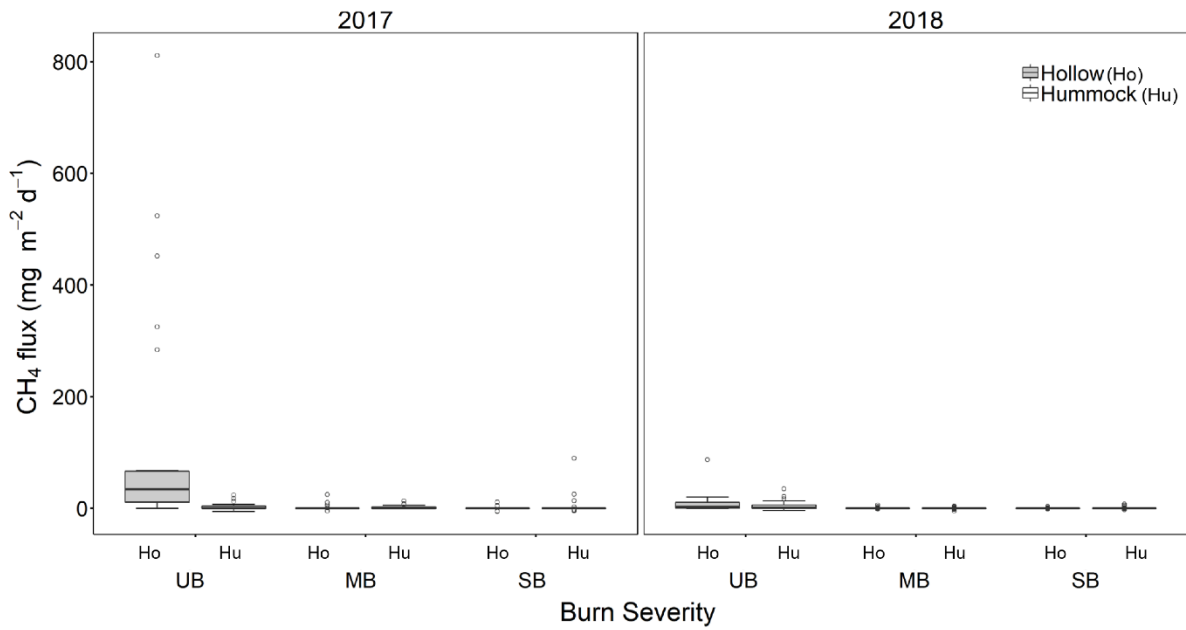
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7 **Figure S2. Seasonal mean CH₄ flux (log transformed) at each collar across the peat burn**
8 **severity gradient plotted against seasonal mean ST at 30 cm depth. UB is unburned, MB is**
9 **moderately burned and SB is severely burned. Note that CH₄ values were log transformed + 10**
10 **therefore a value of 1 represents the measured value zero.**

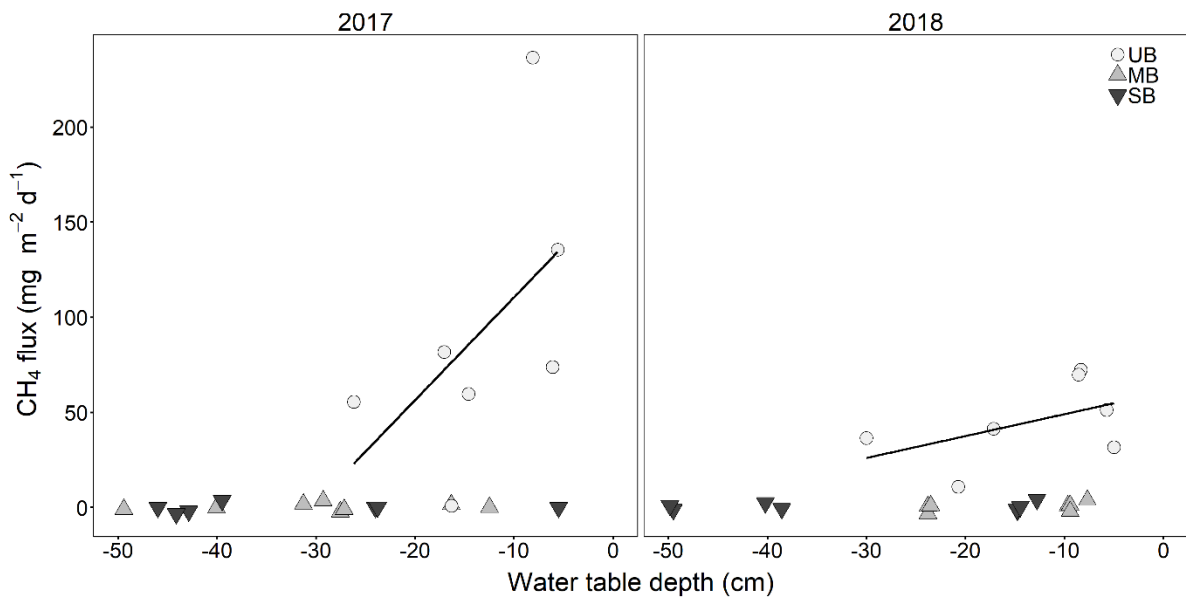
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13 **Figure S3. Methane (CH₄) emissions at each microform type across the peat burn severity**
 14 **gradient for 2017 and 2018. UB is unburned, MB is moderately burned and SB is severely**
 15 **burned.**

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18 **Figure S4. Seasonal mean methane (CH₄) flux at each collar across the peat burn severity**
 19 **gradient plotted against seasonal mean water table (WT) depth. UB is unburned, MB is**
 20 **moderately burned and SB is severely burned.**

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Table S1. Mean (standard deviation) gravimetric water content (%) and organic matter content by LOI (%) for each microform type across the peat burn severity gradient

Burn severity	Microform	Gravimetric water content (%)	Organic matter content (%)
UB	Hollow	84.8 (10.3)	89.3 (3.3)
	Hummock	83.5 (12.1)	89.0 (2.3)
MB	Hollow	77.5 (3.9)	82.2 (1.9)
	Hummock	83.2 (8.0)	90.9 (2.7)
SB	Hollow	88.4 (2.5)	87.7 (2.8)
	Hummock	89.6 (2.4)	92.2 (2.9)