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Supplementary material

Soil organic layer combustion in boreal black-spruce and jack-pine stands of the Northwest Territories, Canada

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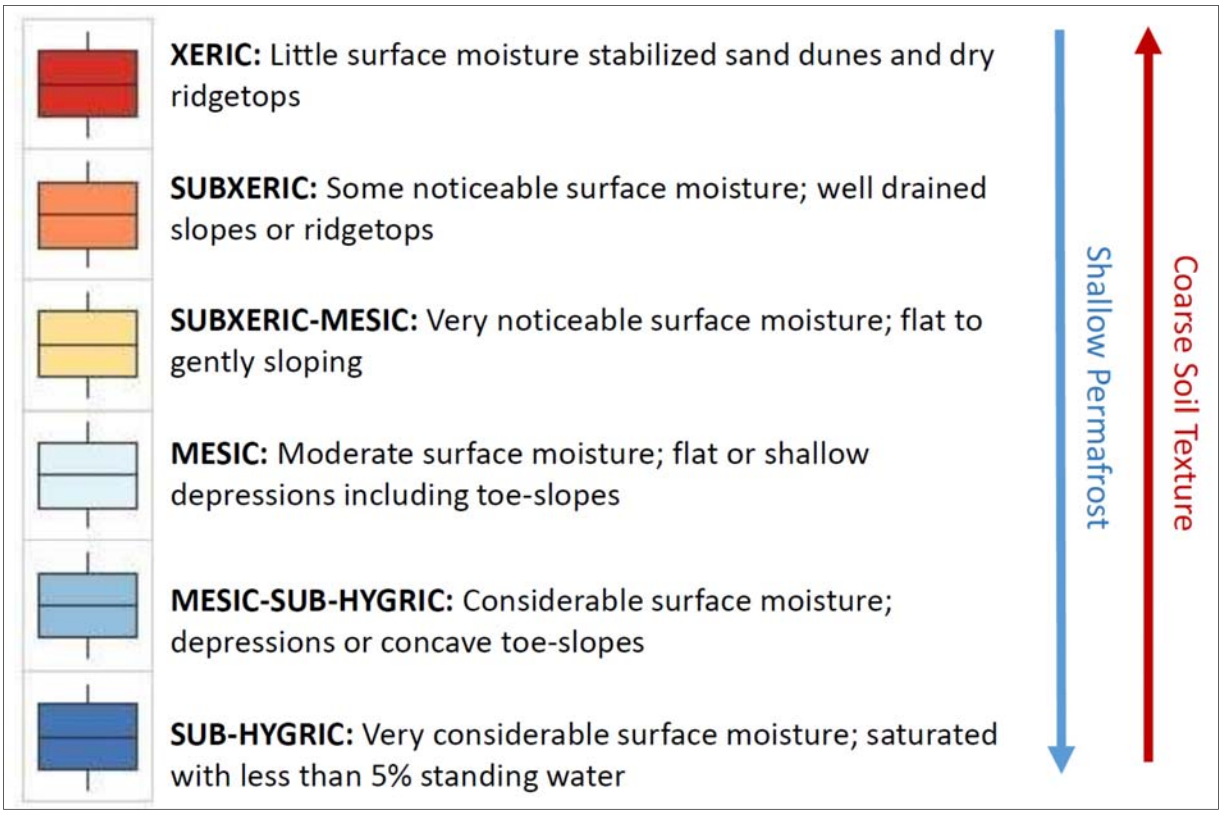

Fig. S1. Key to classifying plot moisture. See Johnstone *et al.* (2008) for additional information and steps to determining moisture based on topography, permafrost presence and soil texture. Modified from Johnstone *et al.* (2008).

Table S1. Sample plot information

Sample plot selection was based on ecozone, Canadian Landcover class information (LCC05 Class), date of burn (early, mid, late) and whether the site was a 'reburn' based on fire history information. Field-based leading tree species information is provided. Note that where Forest Resource Inventory (FRI) data were available, leading species rather than LCC05 categories were used for site selection

Fire ID	Ecozone	LCC05 class	Date of burn	Leading species	Reburn?	Number of sites	Number of plots
SS003	Plains	Conifer medium	Early	Black Spruce	N	4	12
		Conifer low	Early	Black Spruce	N	2	6
		Conifer medium	Early	Black Spruce	Y	2	3
		Conifer low	Early	Black Spruce	Y	2	4
ZF020	Plains	FRI available	Early	Black Spruce	N	4	11
		FRI available	Early	Jack Pine	N	3	9
		FRI available	Late	Black Spruce	N	3	9
		FRI available	Late	Jack Pine	N	4	10
ZF046	Plains	FRI available	Early	Jack Pine	N	3	9
		FRI available	Late	Jack Pine	N	3	9
		FRI available	Early	Jack Pine	Y	3	9
		FRI available	Late	Jack Pine	Y	3	9
ZF035	Plains	Conifer sparse	Mid	Jack Pine – Black Spruce	N	3	9
		Conifer medium	Mid	Jack Pine – Black Spruce	N	3	9
		Conifer low	Mid	Jack Pine – Black Spruce	N	3	9
ZF044	Shield	Conifer medium	Early	Jack Pine – Black Spruce	N	3	9
		Conifer low	Early	Jack Pine – Black Spruce	N	3	9
		Conifer low	Late	Jack Pine – Black Spruce	Y	3	9
ZF026	Shield	Conifer sparse	Early	Black Spruce	N	3	9
		Conifer sparse	Early	Black Spruce	Y	3	9
		Conifer low	Early	Black Spruce	N	3	9
		Conifer low	Early	Black Spruce	Y	3	9
ZF104	Shield	Conifer medium	Mid	Jack Pine – Black Spruce	Y	2	4
		Conifer low	Mid	Jack Pine – Black Spruce	Y	2	4
		Conifer medium	Mid	Jack Pine – Black Spruce	N		
		Conifer low	Mid	Jack Pine – Black Spruce	N	4	8

Table S2. Total area burned (ha) and area accessible (ha) from roads or from shore within each fire

All areas exclude open water within the fire perimeter

Fire name	Fire ID	Total (ha)	Accessible (ha)
Highway1	SS-003	78964.68	5400.408
Highway3Central	ZF-020	694008.8	13956.65
Highway3North	ZF-046	106171.6	7793.414
Gameti West	ZF-035	326671.6	1222.293
Gameti East	ZF-044	171886.8	9289.365
Wakweti	ZF-026	10519.32	3559.382
Discovery	ZF-104	34823.86	1893.658

Table S3. Area (ha) of the three focal LCC05 classes within the seven different fires, and their proportion of the total area

Fire name	Fire ID	Total	Conifer medium	Conifer low	Conifer sparse	Total
Highway1	SS-003	78964.7	11739.9	17602.2	21054.4	0.632
Highway3Central	ZF-020	694008.8	210305.7	195836.7	90780.5	0.716
Highway3North	ZF-046	106171.6	17523.4	37337.4	30287.4	0.802
GametiWest	ZF-035	326671.6	85003.5	104938.6	69781.1	0.795
GametiEast	ZF-044	171886.8	47867.1	50114.9	29029.8	0.739
Wakweti	ZF-026	10519.3	1089.3	2636.7	3877.8	0.723
Discovery	ZF-104	34823.7	7109.3	12660.6	5703.7	0.731

Table S4. Area (ha) of the three focal LCC05 classes within the accessible portion of the fire, and their proportional of all accessible area

Fire name	Fire ID	Total	Conifer medium	Conifer low	Conifer sparse	Total
Highway1	SS-003	5400.4	1626.4	1124.4	756.3	0.649
Highway3Central	ZF-020	13956.6	6312.0	4674.5	914.9	0.853
Highway3North	ZF-046	7793.4	1530.2	3394.2	2378.5	0.937
GametiWest	ZF-035	1222.3	85.2	616.3	375.6	0.881
GametiEast	ZF-044	9289.4	2166.3	1645.5	267.8	0.439
Wakweti	ZF-026	3559.4	778.9	843.9	1193.0	0.791
Discovery	ZF-104	1893.7	379.0	568.5	122.6	0.565

References

Johnstone JF, Hollingsworth TN, Chapin FS III (2008) A key for predicting postfire successional trajectories in black spruce stands of interior Alaska. USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-767. (Portland, OR, USA)