

Supplementary material

Area burned in alpine treeline ecotones reflects region-wide trends

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Table S1. Area (ha) and proportion of area burned over the 29-year study period for subalpine parkland, alpine vegetation, and the region as a whole (total) based on fire perimeters

Compare to Table 3

Ecoregion	Area burned (ha)			Proportion burned		
	Subalpine parkland	Alpine vegetation	Total area	Subalpine parkland	Alpine vegetation	Total area
Blue Mountains	5467	1255	1 120 291	0.127	0.246	0.158
Canadian Rockies	11 524	1156	385 028	0.105	0.028	0.068
Cascades	4160	512	184 418	0.049	0.024	0.040
Columbia Mountains	865	1	313 346	0.039	0.007	0.023
Eastern Cascades	322	41	403 307	0.039	0.023	0.072
Idaho Batholith	24 686	2681	2 496 174	0.319	0.062	0.414
Middle Rockies	9307	58 644	1 691 822	0.104	0.070	0.103
North Cascades	22 291	2275	370 832	0.064	0.032	0.101
Study area	78 621	66 565	6 965 218	0.100	0.065	0.111

Table S2. Results of linear regressions predicting annual area of subalpine parkland or alpine vegetation burned as a function of annual total area (all vegetation types) burned ($n = 29$) based on areas within fire perimeters

Compare to Table 4. Data were log-transformed prior to analysis

Ecoregion	Subalpine parkland					Alpine vegetation				
	Intercept	Slope	<i>t</i>	<i>P</i>	<i>R</i> ²	Intercept	Slope	<i>t</i>	<i>P</i>	<i>R</i> ²
Blue Mountains	-3.69	0.64	4.79	<0.001	0.29	-2.62	0.47	3.56	<0.001	0.29
Canadian Rockies	-0.20	0.59	8.77	<0.001	0.88	-0.24	0.33	4.97	<0.001	0.58
Cascades	0.01	0.44	6.27	<0.001	0.58	-0.10	0.33	4.75	<0.001	0.72
Columbia Mountains ^A	-0.71	0.28	3.17	0.002	0.29	...	...	...	...	...
Eastern Cascades ^A	-0.58	0.19	1.86	0.063	0.15	...	...	...	...	...
Idaho Batholith	-3.70	0.85	6.98	<0.001	0.68	-3.30	0.54	4.50	<0.001	0.35
Middle Rockies	-2.80	0.64	5.93	<0.001	0.48	-3.51	0.79	7.40	<0.001	0.46
North Cascades	-0.58	0.65	8.38	<0.001	0.63	-0.63	0.28	3.68	<0.001	0.29
Study area	-10.67	1.48	7.50	<0.001	0.83	-11.62	1.45	7.49	<0.001	0.76

^AAlpine vegetation in the Columbia Mountains and Eastern Cascades ecoregions was not analysed because it occupied too small an area.

Table S3. Results of Wilcoxon signed rank tests comparing annual proportions burned in subalpine parkland or alpine vegetation to expected proportions (i.e., annual proportion burned of all vegetation types) when burn areas were based on fire perimeters

Compare to Table 5. *V* is the test statistic. Non-significant results support the null hypothesis that area burned in subalpine parkland or alpine vegetation was in proportion to that of the region as a whole. Significant results (bold font) with a negative median support the hypothesis that subalpine parkland or alpine vegetation was less likely to burn than the region. There were no significant tests with a positive median (greater likelihood of burning in the subalpine or alpine)

Ecoregion	Subalpine parkland			Alpine vegetation		
	<i>V</i>	<i>P</i>	Estimated median	<i>V</i>	<i>P</i>	Estimated median
Blue Mountains	86	0.008	-0.0014	147	0.206	-0.0009
Canadian Rockies	105	0.185	0.0005	13	0.003	-0.0011
Cascades	61	0.737	-0.0003	23	0.021	-0.0007
Columbia Mountains ^A	81	0.050	-0.0002	...	...	...
Eastern Cascades ^A	55	0.002	-0.0013	...	...	...
Idaho Batholith	78	0.005	-0.0014	0	<0.001	-0.0059
Middle Rockies	73	0.006	-0.0003	25	<0.001	-0.0008
North Cascades	65	0.048	-0.0007	30	0.002	-0.0018
Study area	141	0.100	-0.0004	29	<0.001	-0.0017

^AAlpine vegetation in the Columbia Mountains and Eastern Cascades ecoregions was not analysed because it occupied too small an area.