

Table S1. Soil texture and soil water content SWC during the excavation work on 5 December 2015 in severe burned (SBF) and moderate burned (MBF) forests.

Soil depth (cm)	SBF				MBF			
	Gravel	Sand	Silt+Clay	SWC (%)	Gravel	Sand	Silt+Clay	SWC (%)
5	0	59.6	40.4	27.6	na	na	na	na
10	na	na	na	na	na	na	na	na
30	23	50.7	26.2	na	na	na	na	na
50	46.4	44	9.6	12.1	17.3	51.4	31.3	18.7
100	24.9	60.3	14	10.2	29.6	45.1	25.3	13.7
200	40.8	37.7	21.5	13.1	32.9	32	35.1	13.6
230	na	na	na	na	29.7	22.5	47.8	17
290	70.5	24.6	4.8	12.3	na	na	na	na

Table S2. The overview of snow field measurements which were conducted on March 1 in each year. SWE and SD stand for snow water equivalent and snow density, respectively.

ID	Depth (cm) / SWE (mm) / SD (g/cm3)			Slope	Land-cover	Altitude [m]
	2016/17	2017/18	2018/19			
1	-/-	25/30.1/0.13	0/0	South	Sparse veg.	1281
2	-/-	24/30.3/0.14	5/6.7/0.13	Valley	Grassland	1193
3	26/33.1/0.13	33/50.1/0.15	19/32.5/0.17	North	Forest	1281
4	0/0/0	0/0/0	0/0/0	South	Sparse veg.	1393
5	20/25.5/0.13	17/22.9/0.13	12.5/17.2/0.14	Valley	Shrub	1356
6	22/31.2/0.14	28/33.8/0.12	14/22.1/0.16	North	Sparse forest	1393
7	0/0/0	0/0/0	0/0/	South	Sparse veg.	1558
8	25/34.4/0.13	30/39.8/0.13	20.5/36.5/0.18	Valley	Grassland	1485
9	21/29.9/0.14	35/41/0.12	19/35.5/0.19	North	Dense forest	1558
10	27/35.7/0.13	35/44.7/0.13	26.5/48.5/0.18	North	Burned forest	1530
11	0/0/0	27/31.3/0.12	0/0/0	South	Grassland	1612
12	12/10.8/0.09	45/62.9/0.14	39/71.4/0.18	Valley	Shrub	1558
13	25/35.7/0.14	24/30.1/0.12	6/8.7/0.14	North	Sparse forest	1612
Mean	22.3/29.7/0.13	29.8/38.7/0.13	17.5/29.8/0.16			

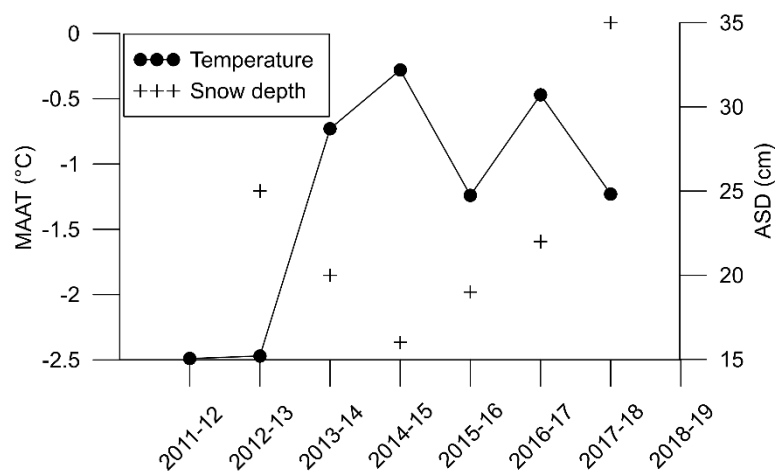


Figure S1. Observed mean annual air temperature (MAAT) and accumulated snow depth at the hydro-climatic station site between 2011 and 2018.

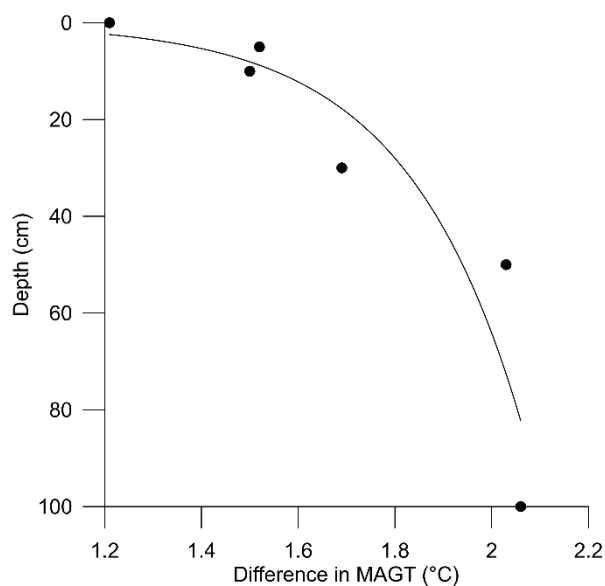


Figure S2. Mean annual ground temperature (MAGT) at burned (SBF) and unburned (UBF) forest sites.

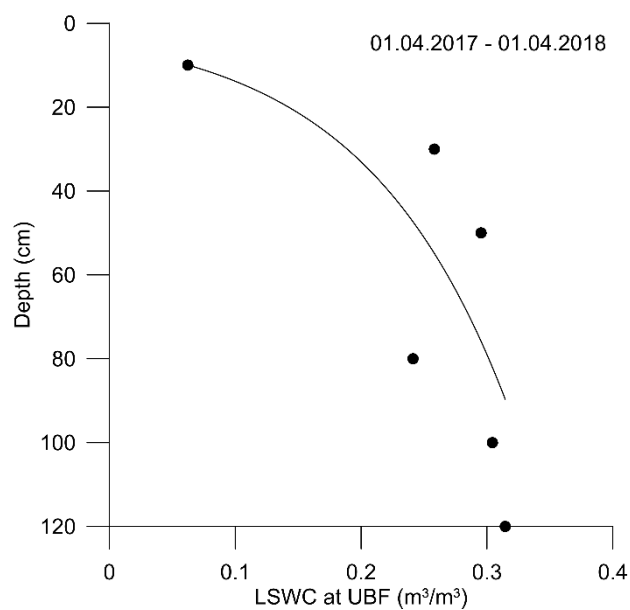


Figure S3. Observed liquid soil water content (LSWC) at UBF site