

## Geographic, site, and climatic characteristics of the nine study locations

Locations are arranged from highest to lowest summer heat: moisture index (SHM).

	Venables	Two-bit Creek	Peterhope Lake	Jaffray	Redfish Creek	Alex Fraser	John Prince	Narrows Creek	Malcolm Knapp
No. of replicates	3	2	3	3	3	2	3	1	3
No. of plots	14	10	14	15	15	10	15	5	15
Geographic variables									
<b>Region<sup>a</sup></b>	TO	KB	TO	KB	KB	C	O	KB	SC
Nearby town	Cache Creek	Castlegar	Merritt	Cranbrook	Nelson	Williams Lk	Ft St James	Nelson	Maple Ridge
<b>Latitude (°N)</b>	50.54	49.52	50.32	49.21	49.63	52.45	54.65	49.58	49.32
<b>Longitude (°W)</b>	121.37	118.10	120.32	115.37	117.03	121.75	124.43	116.98	122.54
Elevation (m)	1280	620	1100	1075	850	950	880	1080	540
Site variables									
Aspect	SE, W	W	variable	S	SE	SE	S	W	S, W
Average slope gradient (%)	20	15	15	5	30	10	15	30	20
Slope position	mid	mid	mid	mid	mid	mid	mid	mid	mid
<b>Soil texture<sup>b</sup></b>	SCL	SL, L	SiL, L	SiL, SiCL	SL	CL, L	(gr) CL	SL, SiL	SL, SiL
<b>Soil order<sup>c</sup></b>	L	P	L, B	L	P	L	L	P	P
<b>Biogeoclimatic variant<sup>d</sup></b>	IDFdk1	ICHdw1	IDFhx2, IDFdk1	IDFdm2	ICHdw1	IDFdk3 ICHmk3	SBSdw3	ICHdw1	CWHvm1
Site series	01/04	101/104	01/04	01	101/104	01	01	101/104	01/03
<b>Climate data<sup>e</sup></b>									
<b>MAT (°C)</b>	3.5	7.7	4.1	5.3	6.8	4.4	2.3	5.1	8.0
<b>MWMT (°C)</b>	15.0	18.9	15.1	17.0	17.6	15.4	13.9	16.0	16.1
MAP (mm)	403	653	398	618	868	532	593	1059	2701
MSP (mm)	166	227	186	249	268	256	240	313	655
SHM	87.6	83.0	80.7	68.2	66.1	61.1	57.7	51.4	24.5
AHM	36.5	27.2	36.0	24.7	19.4	27.3	20.8	14.3	6.6

a TO = Thompson-Okanagan; KB = Kootenay-Boundary; C = Cariboo; O = Omineca; SC = South Coast

b SCL = sandy clay loam; SL = sandy loam, L = loam, SiL = silt loam, SiCL = silt clay loam, CL = clay loam, gr = gravelly

c L = Luvisol; P = Podzol; B = Brunisol (Soil Classification Working Group 1998)

d IDFhx2 = Thompson Very Dry Hot Interior Douglas-fir; IDFdk1 = Thompson Dry Cool Interior Douglas-fir; IDFdk3 = Fraser Dry Cool Interior Douglas-fir; IDFdm2 = Kootenay Dry Mild Interior Douglas-fir; ICHdw1 = West Kootenay Dry Warm Interior Cedar Hemlock; ICHmk3 = Horsefly Moist Cool Interior Cedar Hemlock; SBSdw3 = Stuart Dry Warm Sub-Boreal Spruce; CWHvm1 = Submontane Very Wet Maritime Coastal Western Hemlock (Braumandl and Curran 1992; Lloyd et al. 1992; Delong et al. 1993; Green and Klinka 1994; Steen and Coupe 1997).

e Climate data are 1981-2010 averages derived from ClimateNA v5.50 (Wang et al. 2016). MAT = Mean annual temperature; MWMT = Mean warmest month temperature; MAP = Mean annual precipitation; MSP = May–September precipitation; SHM = Summer heat: moisture index = (MWMT)/(MSP/1000); AHM = Annual heat: moisture index (AHM) = (MAT+10)/(MAP/1000)