



Total ecosystem C (roots, foliage, stand, and soil pools) did not vary with soil heat sums until a threshold of approximately 600 summed degree-days, after which C declined with increasing temperature (A). The distribution of C shifted from soil layers into spruce C pools (aboveground and root C) with increasing soil heat sums (B). Coefficients describing the polynomial trend fit for (A) are $\beta_0 = 7.548 (\pm 2.076)$, $\beta_1 = 0.024 (\pm 0.008)$, $\beta_1^2 = -1.99 \times 10^{-5} (\pm 6.97 \times 10^{-6})$.

Site ^a	Soil C ^b	Aboveground		
		Spruce C ^c	Root C (2 - 5 mm)	Root C (> 5 mm) ^c
T139	10.81 ± 1.55	0.22 ± 0.06	0.32 ± 0.07	0.29 ± 0.01
E338	8.94 ± 1.30	1.62 ± 0.56	0.26 ± 0.09	1.64 ± 0.06
M365	9.30 ± 0.79	0.41 ± 0.14	0.50 ± 0.26	0.51 ± 0.11
P423	12.88 ± 2.15	3.58 ± 0.41	0.38 ± 0.09	3.49 ± 0.08
N598	7.43 ± 1.98	2.24 ± 0.42	1.34 ± 0.02	2.52 ± 0.04
M605	8.10 ± 1.55	3.52 ± 0.57	0.27 ± 0.09	3.43 ± 0.13
P619	7.37 ± 1.59	2.08 ± 0.42	0.23 ± 0.04	1.83 ± 0.08
C663	7.92 ± 1.00	3.19 ± 0.69	0.44 ± 0.02	3.39 ± 0.01
E676	10.54 ± 1.51	1.85 ± 0.35	0.25 ± 0.05	1.67 ± 0.03
U684	8.72 ± 1.95	3.95 ± 0.56	0.78 ± 0.01	3.80 ± 0.11
N742	7.44 ± 1.26	2.99 ± 0.05	0.68 ± 0.04	3.09 ± 0.11
E771	9.58 ± 2.11	1.85 ± 0.32	0.51 ± 0.15	1.76 ± 0.12
M792	7.33 ± 1.67	3.07 ± 0.65	1.20 ± 0.05	3.20 ± 0.08
M854	8.13 ± 1.17	2.28 ± 0.62	0.18 ± 0.03	2.54 ± 0.25
P889	7.47 ± 0.43	0.57 ± 0.19	0.17 ± 0.05	0.76 ± 0.07
M914	6.59 ± 1.29	3.02 ± 1.26	0.33 ± 0.07	3.13 ± 0.13

^a First letter denotes the study area, with sites located off of the Parks Highway (P), the Elliott Highway (E), the Taylor Highway (T), and near Murphy Dome (M), the University of Alaska (U), Cache Creek (C), and Nenana Ridge (N). Letter is followed by summed degree-days (> 0°C) of organic soil measured at each site.

^b Soil carbon is summed for the organic horizons, A horizons, and 5 cm of B horizon.

^c For spruce biomass, error terms derived from standard deviations of stand diameter distributions, using allometric equations of Yarie et al. 2007 (aboveground) and Bond-Lamberty et al. 2002 (coarse root).