Supplemental Table S1

Table S1. Mixed effect model table for predictors of biomass-corrected temperature integration at soil surface. Approximate effective degrees of freedom, F-statistics, and p-values were calculated by Kenward-Roger approximation (Kenward and Roger 1997) using the "afex" package in R (Singmann et al. 2016).

Effect	Approximate df	F	Pr(>F)
biomass density	79	1.72	0.1936
biomass height ratio	52	4.53	0.0381
relative humidity	102	3.34	0.0706
biomass density : biomass height ratio	46	3.18	0.0811

Supplemental Table S2

Table S2. Mixed effect model coefficients for predictors of biomass-corrected temperature integration at soil surface. Results of linear mixed model fit with "lmer()"in the R package "lme4" (Bates et al. 2015). All predictors were standardized to be mean-centered with unit standard deviation.

	Estimate	Std. Error	t value
(Intercept)	-12104.93	8295.01	-1.46
biomass density	12457.58	8906.87	1.40
biomass height ratio	-28554.93	12158.72	-2.35
relative humidity	11495.01	6109.44	1.88
Biomass density : biomass height ratio	-23955.59	11898.84	-2.01

Supplemental Table S3

Table S3. Mixed effect model table for predictors of biomass-corrected temperature integration at 25 cm. Approximate effective degrees of freedom, F-statistics, and p-values were calculated by Kenward-Roger approximation (Kenward and Roger 1997) using the "afex" package in R (Singmann et al. 2016).

Effect	Approximate df	F	Pr(>F)
biomass density	94	1.04	0.3108
biomass height ratio	61	0.31	0.5768
relative humidity	7	1.29	0.2956
biomass density : biomass height ratio	74	1.01	0.3173

Supplemental Table S4

Table S4. Mixed effect model coefficients for predictors of biomass-corrected temperature integration at 25 cm. Results of linear mixed model fit with "lmer()"in the R package "lme4" (Bates et al. 2015). All predictors were standardized to be mean-centered with unit standard deviation.

	Estimate	Std. Error	t value
(Intercept)	1722.72	2393.12	0.72
biomass density	2263.25	1941.85	1.17
biomass height ratio	-1908.97	2782.72	-0.69
relative humidity	-2788.15	2317.04	-1.20
biomass density : biomass height ratio	2876.39	2749.28	1.05

Supplemental Table S5

Table S5. Mixed effect model table for predictors of biomass-corrected maximum biomass loss rate. Approximate effective degrees of freedom, F-statistics, and p-values were calculated by Kenward-Roger approximation (Kenward and Roger 1997) using the "afex" package in R (Singmann et al. 2016).

Effect	Approximate df	F	Pr(>F)
biomass density	72.255	0.202	0.655
biomass height ratio	38.352	0.995	0.325
relative humidity	88.751	0.367	0.546
biomass density : biomass height ratio	27.553	1.177	0.287

Supplemental Table S6

Table S6. Mixed effect model coefficients for predictors of biomass-corrected maximum biomass loss rate. Results of linear mixed model fit with "lmer()"in the R package "lme4" (Bates et al. 2015). All predictors were standardized to be mean-centered with unit standard deviation.

	Estimate	Std. Error	t value
(Intercept)	0.004	0.005	0.923
biomass density	-0.002	0.005	-0.487
biomass height ratio	0.008	0.007	1.098
relative humidity	-0.002	0.003	-0.639
biomass density : biomass height ratio	0.008	0.006	1.212