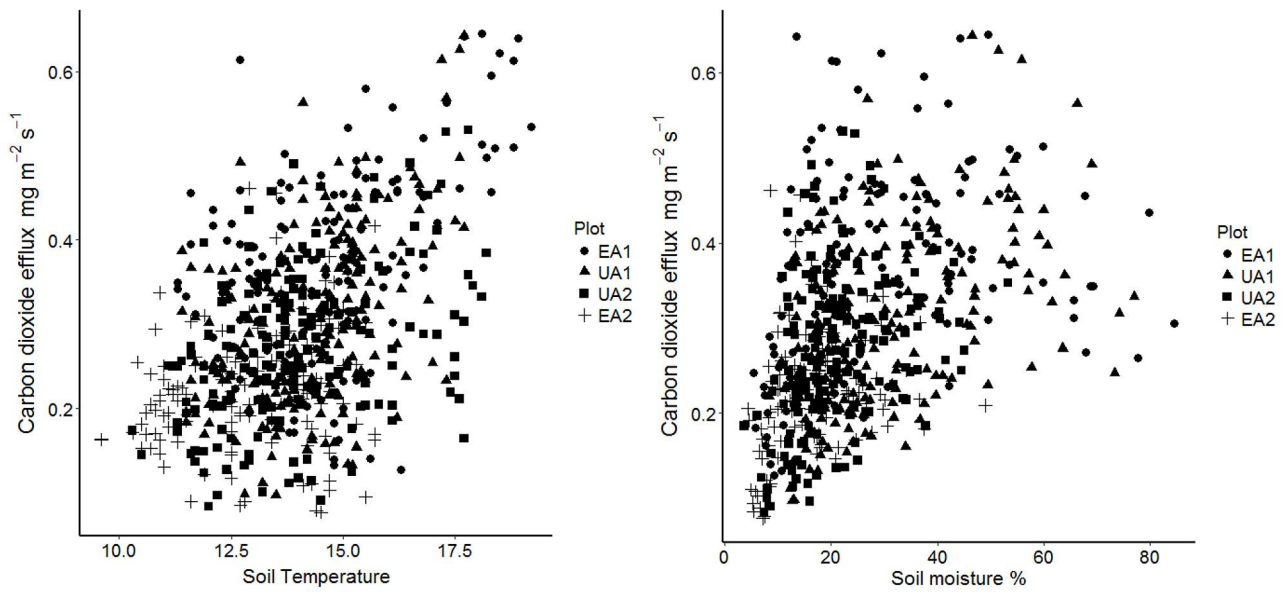


Supplementary Material

Fig. S1 - The effect of soil temperature and soil moisture on the soil CO₂ efflux.



Tab. S1 - Comparison of the study plots using Tukey's test. Diff is the difference between the observed means, lwr and upr are the lower and upper end-points of the intervals and p adj is the p-value that has been adjusted for the multiple comparison.

Study plot	diff	lwr	upr	p adj
UA1-EA1	-0.069	-0.141	0.004	0.068
UA2-EA1	-0.110	-0.182	-0.038	0.001
EA2-EA1	-0.144	-0.216	-0.071	0.000
UA2-UA1	-0.041	-0.114	0.031	0.443
EA2-UA1	-0.075	-0.147	-0.002	0.041
EA2-UA2	-0.034	-0.106	0.039	0.608

Tab. S2 - Parameters for the soil respiration models for soil temperature and soil moisture and their coefficients of determination (R^2).

Study plot	Soil temperature			Soil moisture		
	<i>a</i>	<i>b</i>	R^2	<i>a</i>	<i>b</i>	R^2
UA1	0.034	-0.171	0.227	0.111	-0.059	0.241
UA2	0.021	-0.027	0.159	0.086	0.019	0.162
EA2	0.009	0.114	0.032	0.053	0.085	0.131
EA1	0.031	-0.090	0.228	0.079	0.118	0.173

Tab. S3 - Statistical figures for the fixed effects of models (3) and (4).

Model (3)	Value	Standard Error	DF	t-value	p-value
(Intercept)	-0.447	0.036	567	-12.350	0.000
Temperature	0.031	0.002	567	17.983	0.000
ln(Moisture)	0.098	0.006	567	16.327	0.000

Model (4)	Value	Standard Error	DF	t-value	p-value
(Intercept)	-0.420	0.041	567	-10.310	0.000
Temperature	0.031	0.002	567	17.941	0.000
ln(Moisture)	0.098	0.006	567	16.256	0.000
Structure (Uneven-aged)	-0.036	0.023	1	-1.559	0.363
Fertility (Mesic)	-0.014	0.023	1	-0.591	0.660

Tab. S4 - The standard deviation and residual for the random effects of models (3) and (4). Plot represents the study plots, SubPlot divides the plots into gap and closed canopy points and Collar represents all the individual measuring points.

Model (3)	Plot (u_p)	SubPlot (u_s)	Collar (u_k)	Residual
Standard Deviation:	0.015	0.017	0.046	0.062

Model (4)	Plot (u_p)	SubPlot (u_s)	Collar (u_k)	Residual
Standard Deviation:	0.014	0.013	0.046	0.063