

Supporting informations

Table S1. Measurement periods and ranges of soil temperature, moisture, and respiration of the seven sites in the different treatments. Soil temperature measured at 5 cm soil depth, soil moisture measured at the soil depths presented in Table 2. Overall average values are in bold within brackets.

Country	Site	Measurement periods <i>yyyy.mm</i>	Treatments	Number of data points	Soil temp. °C	Soil moist. Vol%	Soil respiration $\mu\text{mol m}^{-2} \text{s}^{-1}$
HU	Kiskunság	2010.04 - 2012.11	All treatments	261	0.40 - 40.50 (21.97)	2.0 - 8.1 (4.1)	0.11 - 2.48 (0.84)
			Control	88	2.00 - 39.40 (22.14)	2.2 - 8.1 (4.3)	0.18 - 2.10 (0.92)
			Drought	87	0.40 - 40.50 (21.98)	2.0 - 7.0 (3.8)	0.11 - 2.48 (0.75)
			Warming	86	4.60 - 40.00 (21.79)	2.2 - 6.8 (4.1)	0.16 - 2.27 (0.84)
ES	Garraf	2002.04 - 2003.12	All treatments	315	4.35 - 44.25 (19.04)	5.6 - 31.6 (19.0)	0.27 - 2.60 (1.16)
			Control	105	4.35 - 43.95 (19.13)	5.6 - 31.3 (19.7)	0.29 - 2.60 (1.24)
			Drought	105	4.77 - 40.24 (17.97)	6.6 - 25.4 (17.2)	0.27 - 2.15 (1.04)
			Warming	105	5.59 - 44.25 (20.01)	6.7 - 31.6 (20.0)	0.33 - 2.34 (1.20)
IT	Capo Caccia	2010.02 - 2011.11	All treatments	157	7.73 - 28.85 (17.59)	3.2 - 27.6 (14.8)	0.98 - 5.38 (2.65)
			Control	51	7.73 - 28.85 (17.59)	5.6 - 24.9 (14.9)	0.98 - 5.14 (2.64)
			Drought	54	7.82 - 28.28 (17.61)	3.2 - 27.7 (14.4)	1.03 - 5.38 (2.55)
			Warming	52	8.47 - 28.68 (17.58)	3.9 - 24.4 (15.1)	1.09 - 4.99 (2.76)
DK	Mols	2011.05 - 2012.09	All treatments	124	2.32 - 22.30 (12.82)	5.8 - 18.3 (12.3)	0.65 - 17.66 (3.71)
			Control	43	2.32 - 22.30 (13.00)	6.7 - 18.3 (12.9)	0.65 - 8.78 (3.98)
			Drought	40	3.06 - 21.44 (12.60)	5.8 - 17.2 (11.5)	0.73 - 17.66 (3.52)
			Warming	41	3.27 - 20.60 (12.85)	6.3 - 18.2 (12.5)	0.92 - 13.87 (3.62)
DK	Brandbjerg	2011.03 - 2012.12	All treatments	621	-0.25 - 18.48 (9.93)	5.4 - 30.2 (16.3)	0.02 - 8.48 (1.59)
			Control	205	-0.08 - 17.23 (9.73)	6.0 - 28.0 (17.8)	0.09 - 8.48 (1.74)
			Drought	208	-0.19 - 17.33 (9.82)	5.4 - 24.7 (15.6)	0.06 - 4.61 (1.35)
			Warming	208	-0.25 - 18.48 (10.35)	6.7 - 30.2 (15.6)	0.02 - 6.86 (1.69)
NL	Oldebroek	2010.07 - 2012.06	All treatments	224	2.49 - 18.89 (10.46)	7.4 - 39.9 (24.7)	0.26 - 3.05 (0.98)
			Control	74	2.59 - 18.89 (10.53)	7.4 - 39.9 (24.7)	0.27 - 2.57 (1.11)
			Drought	75	2.61 - 18.57 (10.42)	9.9 - 39.5 (29.7)	0.26 - 3.05 (0.98)
			Warming	75	2.49 - 18.31 (10.44)	7.5 - 39.6 (24.5)	0.26 - 2.00 (0.87)
UK	Clocaenog	2010.01 - 2012.12	All treatments	471	0.60 - 14.29 (7.91)	8.7 - 71.4 (41.7)	0.13 - 4.00 (1.15)
			Control	155	0.60 - 13.76 (7.86)	26.2 - 66.0 (42.6)	0.13 - 2.78 (0.95)
			Drought	157	0.88 - 13.56 (7.88)	8.7 - 70.1 (32.7)	0.25 - 3.51 (1.36)
			Warming	159	0.98 - 14.29 (7.98)	28.0 - 71.4 (49.6)	0.13 - 4.00 (1.14)