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Supplement of

Drivers of long-term variability in CO₂ net ecosystem exchange in a temperate peatland

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Supplementary material

Table S1: Non-linear regression coefficients (a and b) and associated R^2 values calculated for 24-hour averages of measured night time NEE and T_{air} using eq. (1), and annual values of Q_{10} ($T_1 = 5\text{ }^\circ\text{C}$, $T_2 = 15\text{ }^\circ\text{C}$) calculated using eq. (2).

Year	a	b	R^2	Q_{10}
2002	0.5876	0.1285	0.24	3.61
2003	0.5342	0.1243	0.32	3.47
2004	0.8119	0.1193	0.37	3.30
2005	0.5901	0.1699	0.68	5.47
2006	0.6596	0.1212	0.59	3.36
2007	0.7775	0.0974	0.48	2.65
2008	0.4398	0.1603	0.61	4.97
2009	0.9252	0.0793	0.20	2.21
2010	0.5757	0.1103	0.46	3.01
2011	-	-	-	-
2012	0.8329	0.1261	0.61	3.53
2013	1.2919	0.0824	0.48	2.28

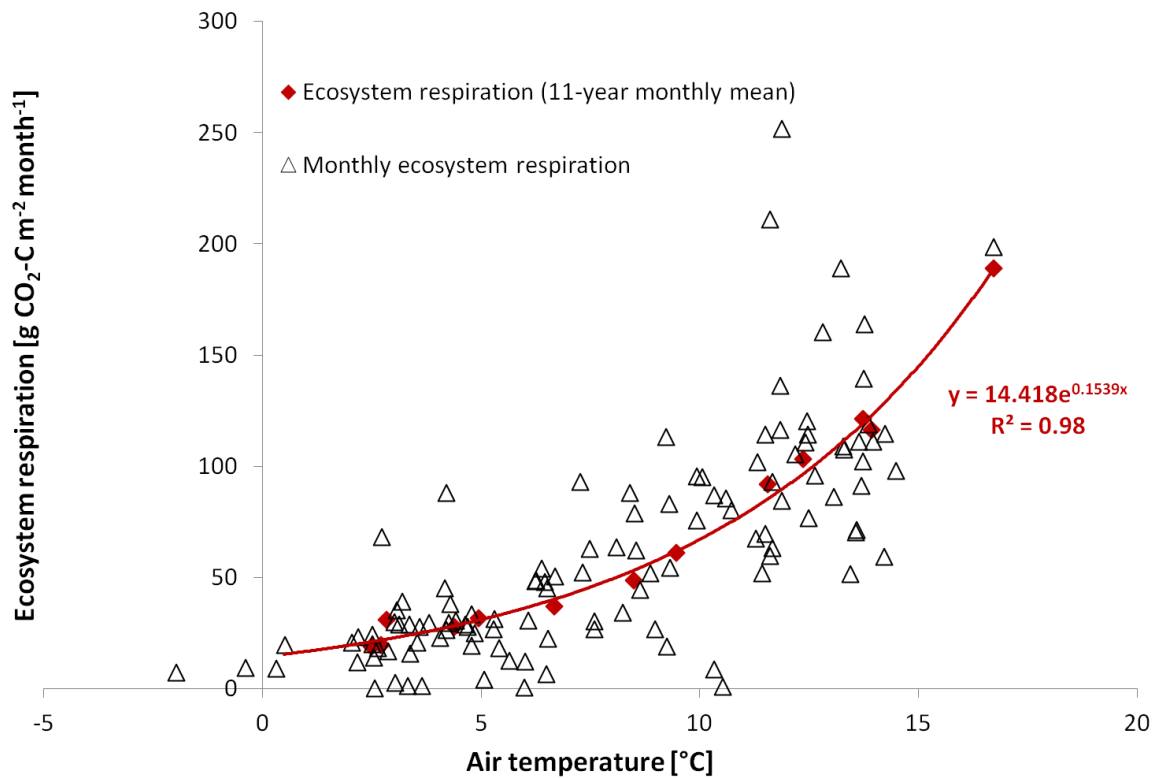


Figure S2: Monthly averages (open triangles) and 11-year monthly averages (solid diamonds) of night time ecosystem respiration as a function of air temperature. The solid line represents the non-linear regression (Eq.(1)) of 11-year monthly averages of R_{eco} vs. air temperature.

Table S3: light curve parameters GPP_{sat} and α , and associated R^2 obtained by fitting Eq. (3) to growing season GPP vs. PAR. No PAR data for 2002 and no GPP data for 2011.

Year	GPP_{sat}	α	R^2
2002	-	-	-
2003	9.98	0.033	0.48
2004	18.03	0.036	0.55
2005	21.41	0.064	0.32
2006	12.39	0.098	0.45
2007	16.04	0.035	0.59
2008	11.98	0.032	0.48
2009	12.05	0.023	0.50
2010	9.23	0.027	0.69
2011	-	-	-
2012	12.59	0.040	0.60
2013	12.57	0.035	0.59

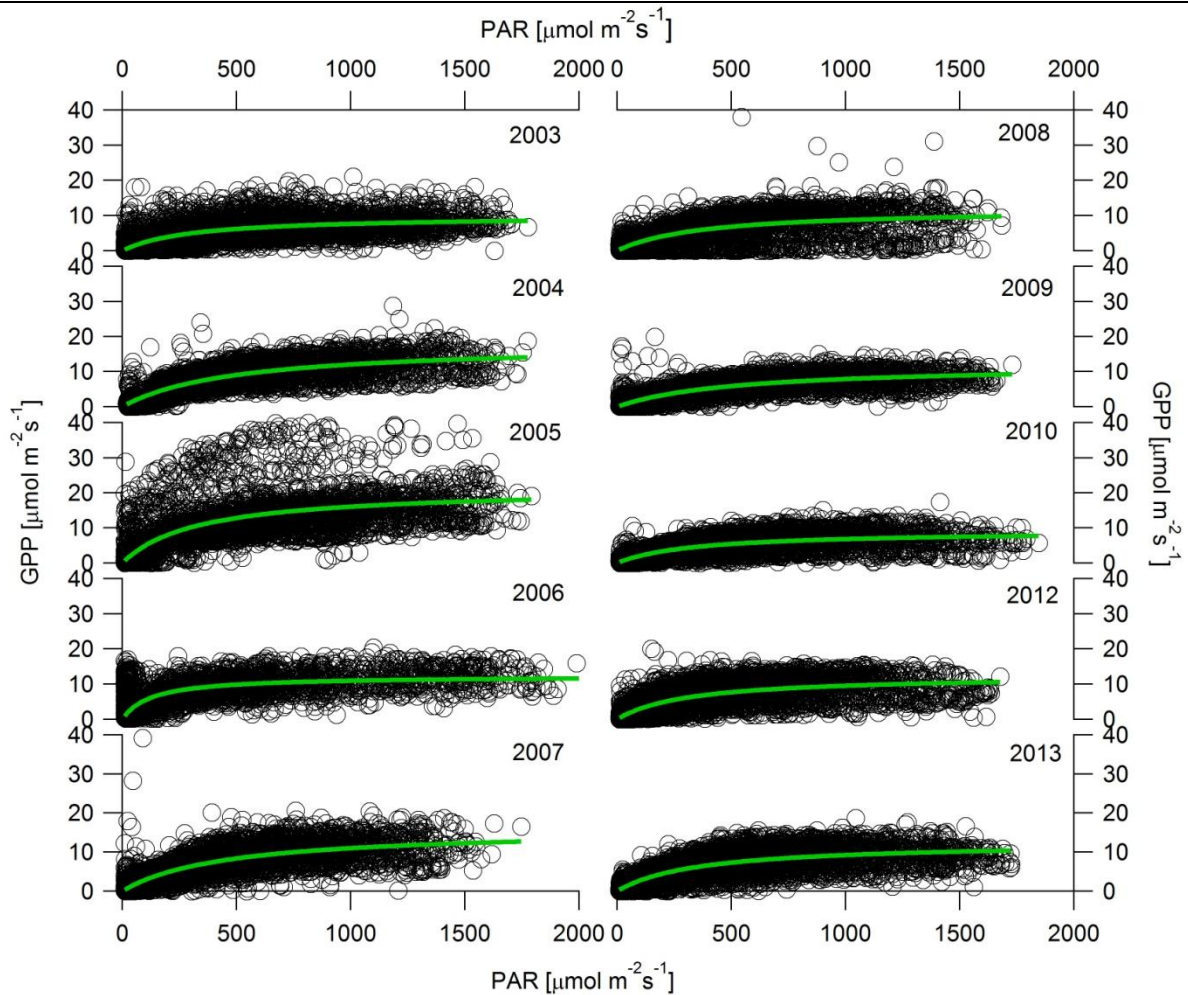


Figure S4: GPP vs. PAR (open circles) during the growing seasons of 2003-2013 (no data for 2011 due to instrument malfunction) and associated light curves calculated using Eq. (3).