

Title: Separating temperature and GPP effect on the diel pattern of soil respiration among phenological stages

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Supporting information

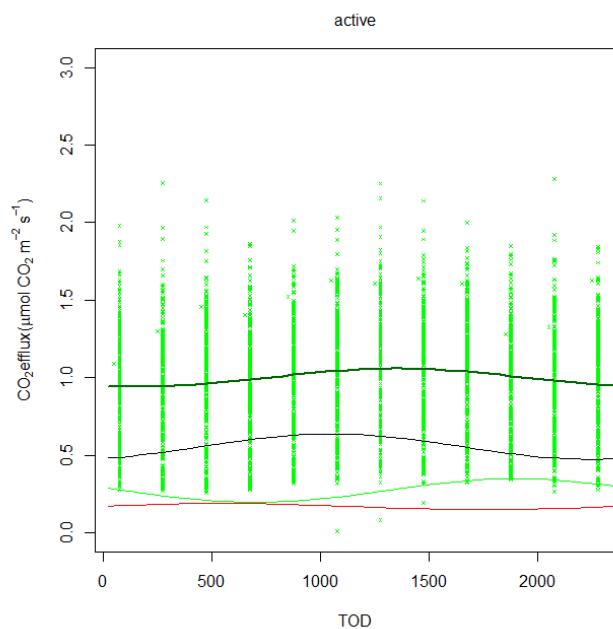


Fig. S1 Normalized diel pattern of measured R_s values in the active period (green dots), modelled temperature driven respiration (from parameters of Eq. 5, black line), modelled GPP driven rhizospheric respiration (from parameters of Eq. 7, green line), modelled GPP driven mycorrhizal respiration (from parameters of Eq. 7, red line) and modelled total soil respiration (sum of the three previous model, dark green line). Time (TOD) is in UTC.

Fitted parameters of Eq.5:

	Estimate	Std. Error	t value	Pr(> t)
y1	0.55646	0.09159	6.075	1.4e-09 ***
a1	0.05815	0.01350	4.308	1.7e-05 ***

Fitted parameters of Eq.7:

	Estimate	Std. Error	t value	Pr(> t)
y2	1.703e-01	1.632e-16	1.043e+15	<2e-16 ***
a2	7.599e-02	1.903e-17	3.992e+15	<2e-16 ***

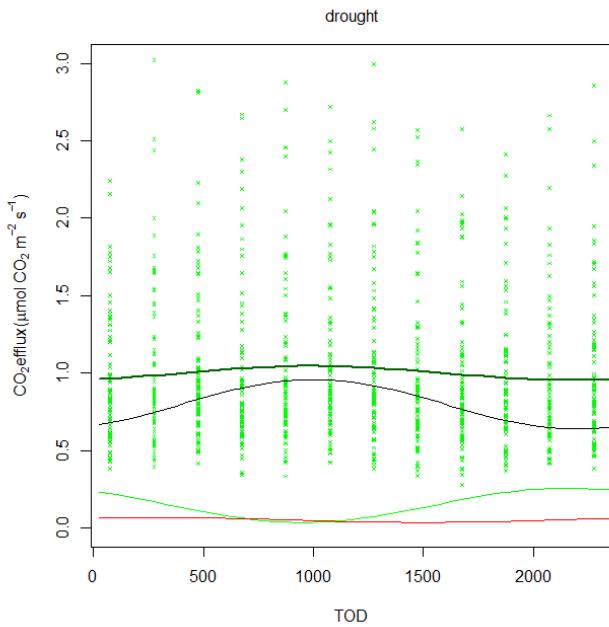


Fig. S2 Normalized diel pattern of measured R_s values in the drought period (green dots), modelled temperature driven respiration (from parameters of Eq. 5, black line), modelled GPP driven rhizospheric respiration (from parameters of Eq. 7, green line), modelled GPP driven mycorrhizal respiration (from parameters of Eq. 7, red line) and modelled total soil respiration (sum of the three previous model, dark green line). Time (TOD) is in UTC.

Fitted parameters of Eq.5:

	Estimate	Std. Error	t value	Pr(> t)
y1	0.7996	26.1219	0.031	0.976
a1	0.1143	5.2245	0.022	0.983

Fitted parameters of Eq.7:

	Estimate	Std. Error	t value	Pr(> t)
y2	5.262e-02	2.845e-17	1.849e+15	<2e-16 ***
a2	1.113e-01	8.394e-18	1.326e+16	<2e-16 ***

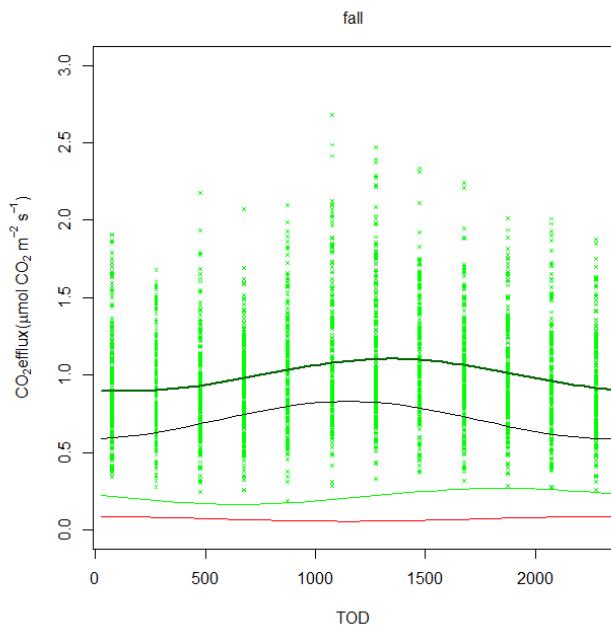


Fig. S3 Normalized diel pattern of measured R_s values in the fall period (green dots), modelled temperature driven respiration (from parameters of Eq. 5, black line), modelled GPP driven rhizospheric respiration (from parameters of Eq. 7, green line), modelled GPP driven mycorrhizal respiration (from parameters of Eq. 7, red line) and modelled total soil respiration (sum of the three previous model, dark green line). Time (TOD) is in UTC.

Fitted parameters of Eq.5:

	Estimate	Std. Error	t value	Pr(> t)
y1	0.70915	0.07026	10.093	< 2e-16 ***
a1	0.05781	0.01190	4.856	1.27e-06 ***

Fitted parameters of Eq.7:

	Estimate	Std. Error	t value	Pr(> t)
y2	7.252e-02	1.861e-17	3.897e+15	<2e-16 ***
a2	5.184e-02	3.964e-18	1.308e+16	<2e-16 ***

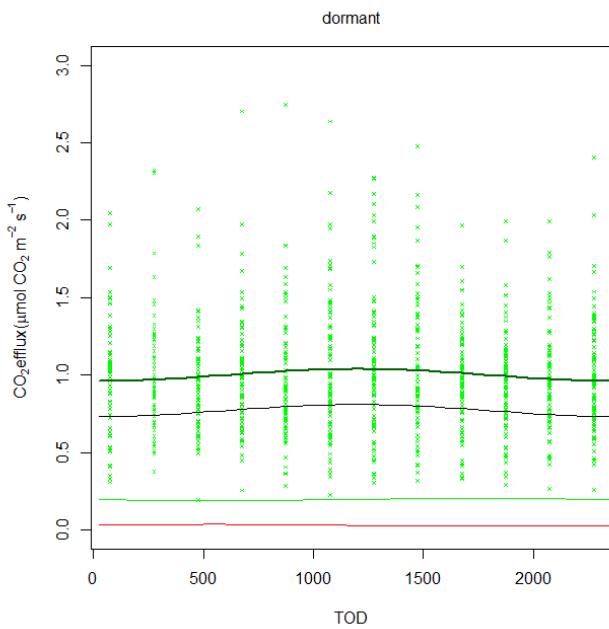


Fig. S4 Normalized diel pattern of measured R_s values in the dormant period (green dots), modelled temperature driven respiration (from parameters of Eq. 5, black line), modelled GPP driven rhizospheric respiration (from parameters of Eq. 7, green line), modelled GPP driven mycorrhizal respiration (from parameters of Eq. 7, red line) and modelled total soil respiration (sum of the three previous model, dark green line). Time (TOD) is in UTC.

Fitted parameters of Eq.5:

	Estimate	Std. Error	t value	Pr(> t)
y1	0.77149	1.33979	0.576	0.565
a1	0.00000	0.06668	0.000	1.000

Fitted parameters of Eq.7:

	Estimate	Std. Error	t value	Pr(> t)
y2	0.030979	0.007539	4.109	0.000162 ***
a2	0.010000	0.001598	6.256	1.19e-07 ***