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*Supplement of*

## **An ecosystem-scale perspective of the net land methanol flux: synthesis of micrometeorological flux measurements**

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Table S1. Details on setup and instrumentation for methanol flux measurements.

	<b>Blodgett Forest</b>	<b>Missouri Ozark</b>	<b>Harvard Forest</b>	<b>Vielsalm</b>	<b>Oensingen INT</b>	<b>Oensingen EXT</b>	<b>Neustift</b>	<b>Stordalen mire</b>
Flux method	REA	DEC	DEC	DEC	DEC	DEC	DEC	DEC
vDEC sampling interval and dwell time(s)	-	1.2 (0.1)	3.0 (0.2)	2.0 (0.2)	0.7-1.3 (0.2)	0.7-1.3 (0.2)	1.8-3.0 (0.2-0.5)	3.0 (0.5)
Sonic anemometer model	CSAT, Campbell Scientific, USA	CSAT, Campbell Scientific, USA	SATI-K probe, Applied Technologies, USA	R2,Gill UK	HS, Gill, UK	HS, Gill, UK	R3, Gill, UK	USA-1, Metek, Germany
PTR-MS	-	Ionicon Analytik, Austria	Ionicon Analytik, Austria	Ionicon Analytik, Austria	Ionicon Analytik, Austria	Ionicon Analytik, Austria	custom-built	Ionicon Analytik, Austria
Inlet length/inner diameter (m)	-	40/0.0064	50/0.006	60/0.0064	30/0.0035	30/0.0035	14/0.004	12/0.008
Inlet heating (Y/N)	-	N	N	Y	N	N	Y	Y
Inlet flow (l/min)	-	10	11.8	9	4	4	8	20
PTR-MS drift tube pressure (mbar)	-	2.3	2.1	2.1	2.1	2.1	2.15-2.3	2.2
PTR-MS drift tube voltage (V)	-	540	600	600	550	550	550-600	600
E/N (Td)	-	110	126	143	122	122	130	130
Key reference	Schade and Goldstein (2001)	Seco et al. (in preparation)	McKinney et al. (2011)	Laffineur et al. (2012)	Brunner et al. (2007)	Brunner et al. (2007)	Hörtnagl et al. (2011)	Holst et al. (2010)

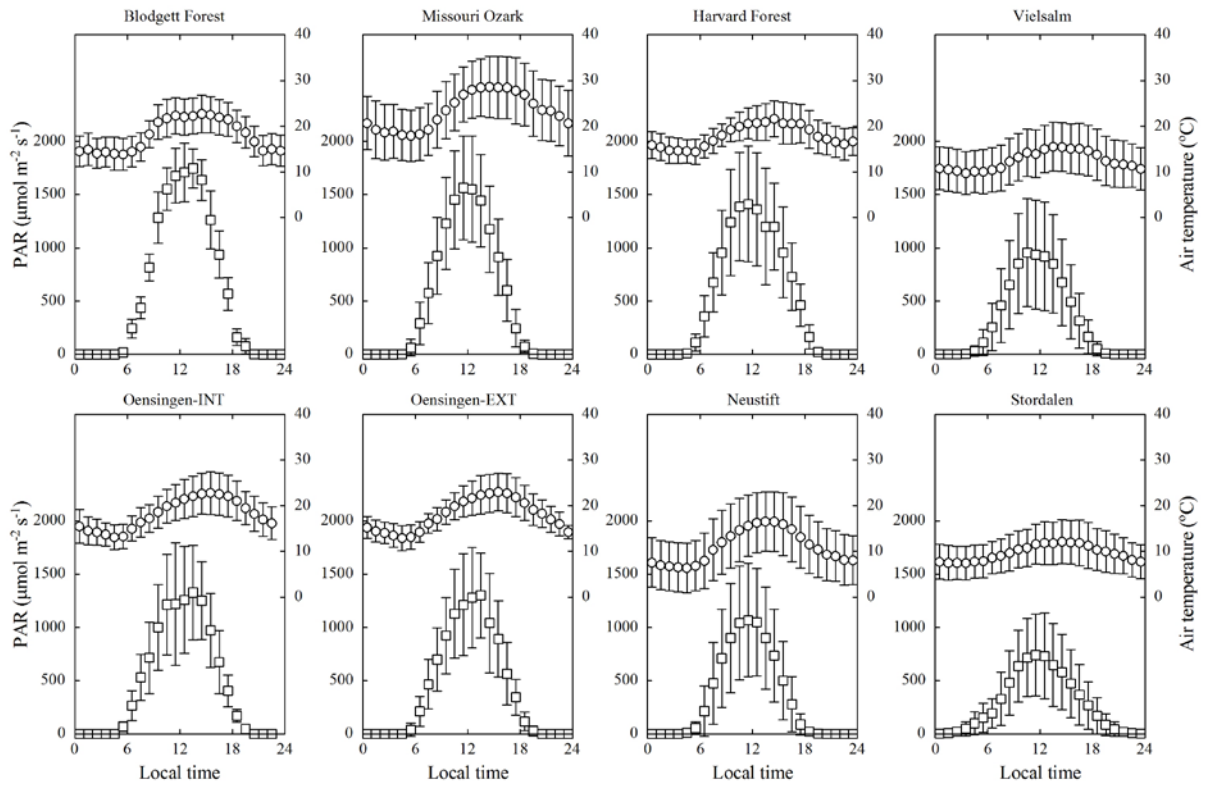


Figure S1. Hourly bin-averaged diurnal variation of photosynthetically active radiation (PAR; squares; left y-axis) and air temperature (circles; right y-axis) at the eight study sites (error bars represent  $\pm$  one standard deviation).

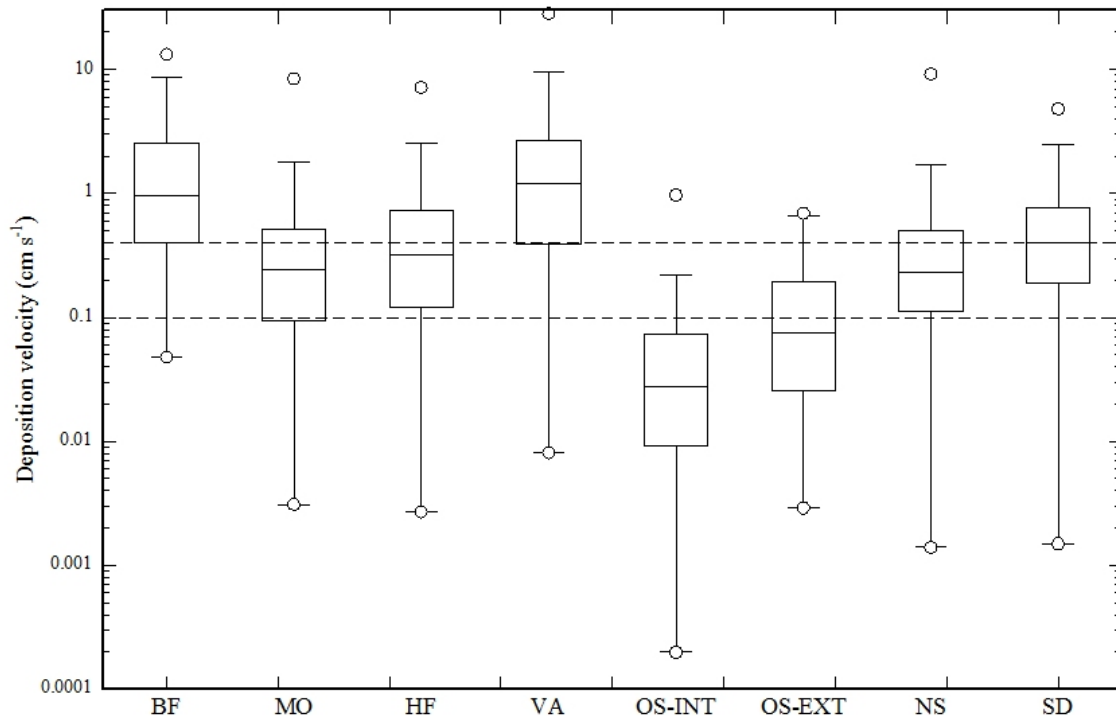


Figure S2. Box-plots of methanol deposition velocities at the eight study sites. Horizontal dashed lines indicate the range of deposition velocities (0.1-0.4 cm s<sup>-1</sup>) used in global budgets (see also Table 2). Box plots show minima/maxima (circles), 5% and 95% quartiles (whiskers), the interquartile range (box) and the median (horizontal line).

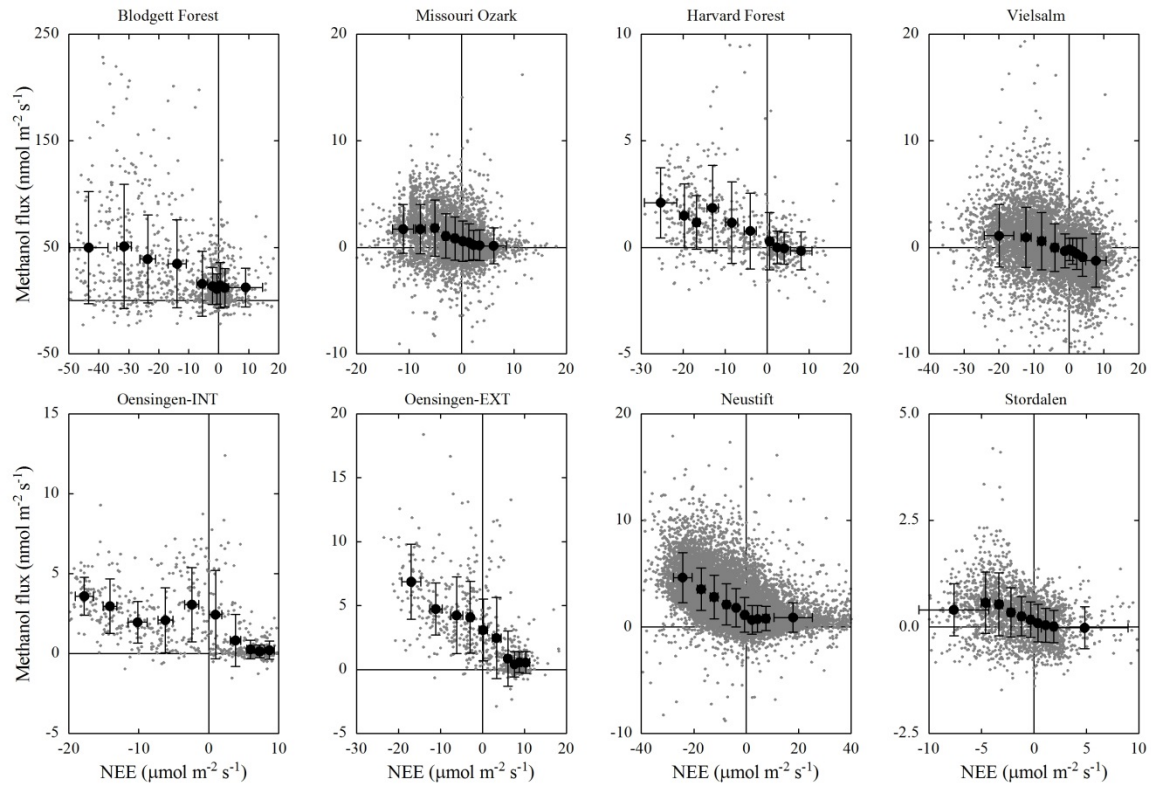


Figure S3. Relationship between the net ecosystem CO<sub>2</sub> exchange (NEE) and methanol flux. Small grey symbols represent half-hourly flux measurements, black closed symbols 10 bin averages with equal numbers of data. Error bars refer to one standard deviation. Note different x- and y-scales in different panels.