

Supplementary Materials: Modeling and Partitioning of Regional Evapotranspiration Using a Satellite-Driven Water-Carbon Coupling Model

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Table S1. Site Information for the eddy covariance (EC) flux sites in this study, including plant functional type (PFT), site identifier (Site ID), latitude (Lat), longitude (Lon), data period, country, and references.

PFT	Site ID	Lat (°N)	Lon (°W)	Data Period	Country	References	
Cropland	NL-Lan	51.954	4.903	2005	Netherlands	Jacobs et al. (2007) [1]	
Cropland	NL-Lut	53.399	6.356	2006	Netherlands	Moors et al. (2010) [2]	
Cropland	US-Blo	40.006	-97.489	2000 to 2006	USA	Goldstein et al. (2000) [3]	
Cropland	US-Ne1	41.165	-96.477	2001 to 2004	USA	Verma et al. (2005) [4]	
Cropland	US-Ne2	41.165	-96.47	2003 to 2004	USA	Verma et al. (2005) [4]	
Cropland	US-Ne3	41.18	-96.44	2001 to 2004	USA	Verma et al. (2005) [4]	
Cropland	YC	36.83	116.57	2003 to 2005	China		
Grassland	IT-Amp	41.904	13.605	2003 to 2006	Italy	Gilmanov et al. (2007) [5]	
Grassland	NL-Ca1	51.971	4.927	2003 to 2006	Netherlands	Jacobs et al. (2007) [1]	
Grassland	NL-Hor	52.029	5.068	2005 to 2006	Netherlands	Jacobs et al. (2007) [1]	
Grassland	US-Aud	31.591	-110.51	2002, 2005 to 2006	USA	-	
Grassland	US-Bo1	44.345	-96.836	1997 to 2006	USA	Meyers (2004) [6]	
Grassland	US-FPe	48.308	-105.102	2000 to 2006	USA	-	
Grassland	US-Goo	34.255	-89.873	2002 to 2006	USA	-	
Grassland	US-Var	38.413	-120.951	2001 to 2007	USA	Ma et al. (2007) [7]	
Grassland	DX	30.5	91.07	2003 to 2005	China	Hu et al. (2008) [8]	
Grassland	GCT	37.67	101.33	2003 to 2005	China	Hu et al. (2008) [8]	
Grassland	NM	43.55	116.68	2003 to 2005	China	Hu et al. (2008) [8]	
Savanna	AU-How	-12.494	131.152	2001 to 2006	Australia	Hutley et al. (2005) [9]	
Savanna	BW-Ghg	-21.51	21.74	2003	Botswana	Veenendaal et al. (2004) [10]	
Savanna	BW-Ghm	-21.2	21.75	2003	Botswana	Veenendaal et al. (2004) [10]	
Savanna	BW-Ma1	-19.916	23.56	2000 to 2001	Botswana	Veenendaal et al. (2004) [10]	
Savanna	US-Ton	38.432	-120.966	2002 to 2006	USA	Ma et al. (2007) [7]	
Wetland	CA-Mer	45.41	-75.52	1999 to 2005	Canada	Lafleur et al. (2003) [11]	
Wetland	SE-Faj	56.27	13.55	2006	Sweden	Eklundh et al. (2011) [12]	
Wetland	SD	37.61	101.33	2003 to 2005	China	Hu et al. (2008) [8]	
Shrubland	CA-NS6	55.92	-98.96	2002 to 2005	Canada	Goulden et al. (2011) [13]	
Shrubland	CA-NS7	56.636	-99.948	2003 to 2005	Canada	Goulden et al. (2011) [13]	
Shrubland	CA-SF3	54.09	-106.01	2003 to 2005	Canada	Mkhabela et al. (2011) [14]	
	DBF	IT-Ro1	42.408	11.93	2001 to 2006	Italy	Rey et al. (2002) [15]
	DBF	IT-Ro2	42.39	11.921	2002 to 2006	Italy	Tedechi et al. (2006) [16]
	DBF	US-Bar	44.065	-71.288	2004 to 2005	USA	Jenkins et al. (2007) [17]
	DBF	US-Ha1	42.538	-72.172	2002 to 2006	USA	Urbanski et al. (2007) [18]
	DBF	US-MMS	39.323	-86.413	1999 to 2005	USA	Dragoni et al. (2007) [19]
	DBF	US-UMB	45.56	-84.714	1999 to 2003	USA	Gough et al. (2008) [20]
	DBF	US-WCr	45.806	-90.08	2000 to 2006	USA	Cook et al. (2008) [21]
	EBF	AU-Tum	-35.656	148.152	2001 to 2006	Australia	Leuning et al. (2005) [22]
	EBF	AU-Wac	-37.43	145.19	2005 to 2007	Australia	-
	EBF	ID-Pag	2.35	14.4	2002 to 2003	Indonesia	-
	EBF	IT-Cpz	41.705	12.376	2000 to 2006	Italy	Hickler et al. (2006) [23]
	EBF	DHS	23.17	112.53	2003 to 2005	China	Yan et al. (2014) [24]
	ENF	CA-Man	55.88	-98.481	2000 to 2003	Canada	Groenendijk et al. (2009) [25]
	ENF	CA-NS1	55.879	-98.484	2003 to 2005	Canada	Goulden et al. (2004) [26]
	ENF	CA-NS2	55.906	-98.525	2002 to 2005	Canada	Goulden et al. (2004) [26]
	ENF	CA-NS3	55.912	-98.382	2002 to 2005	Canada	Goulden et al. (2004) [26]
	ENF	CA-NS4	55.912	-98.382	2002 to 2004	Canada	Goulden et al. (2004) [26]
	ENF	CA-NS5	55.863	-98.485	2001 to 2005	Canada	Goulden et al. (2004) [26]

ENF	CA-Qcu	49.267	-74.036	2002 to 2006	Canada	Giasson et al. (2006) [27]
ENF	CA-Qfo	49.693	-74.342	2004 to 2006	Canada	Bergeron et al. (2007) [28]
ENF	CA-SF1	54.485	-105.818	2004	Canada	Mkhabela et al. (2009) [14]
ENF	CA-SF2	54.092	-106.005	2003 to 2004	Canada	Mkhabela et al. (2009) [14]
ENF	DE-Tha	50.964	13.567	2000 to 2006	Germany	Kramer et al. (2002) [29]
ENF	FI-Hyy	61.847	24.295	2000 to 2006	Finland	Kramer et al. (2002) [29]
ENF	NL-Loo	52.17	5.74	1997 to 2006	Netherlands	Dolman et al. (2002) [30]
ENF	SE-Sk2	64.113	19.457	2004 to 2005	Sweden	-
ENF	SE-Fla	60.086	17.48	2000 to 2002	Sweden	Verstraeten et al. (2006) [31]
ENF	US-Bkg	38.895	-120.633	2004 to 2006	USA	Goldstein et al. (2000) [3]
ENF	US-Ho1	45.204	-68.74	1996 to 2004	USA	Hollinger et al. (2004) [32]
ENF	US-Me4	44.499	-121.622	1996 to 1997, 2000	USA	Law et al. (2000) [33]
ENF	QYZ	26.75	115.06	2003 to 2005	China	Yu et al. (2008) [34]
MF	US-PFa	45.946	-90.272	1997 to 2000, 2003	USA	Davis et al. (2003) [35]
MF	US-Syv	46.242	-89.348	2002 to 2006	USA	Desai et al. (2005) [36]
MF	CBS	42.4	128.1	2003 to 2005	China	Zhang et al. (2006) [37]

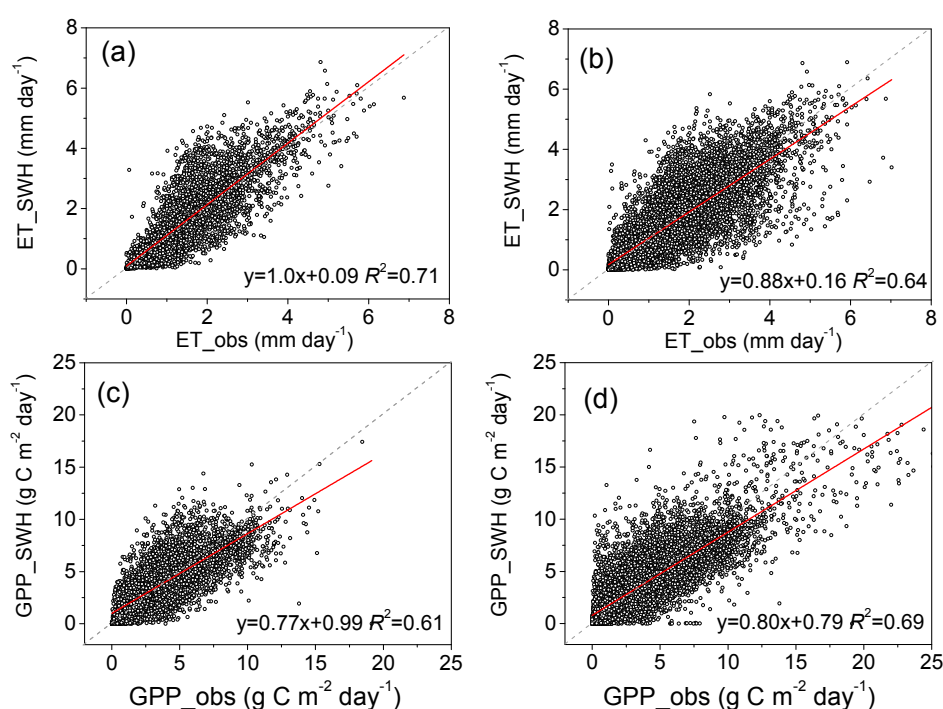


Figure S1. Performances of the SWH model in estimating ET (a,b) and GPP (c,d) at 32 sites, which were used for calibration (a,c) and the remaining sites for validation (b,d).

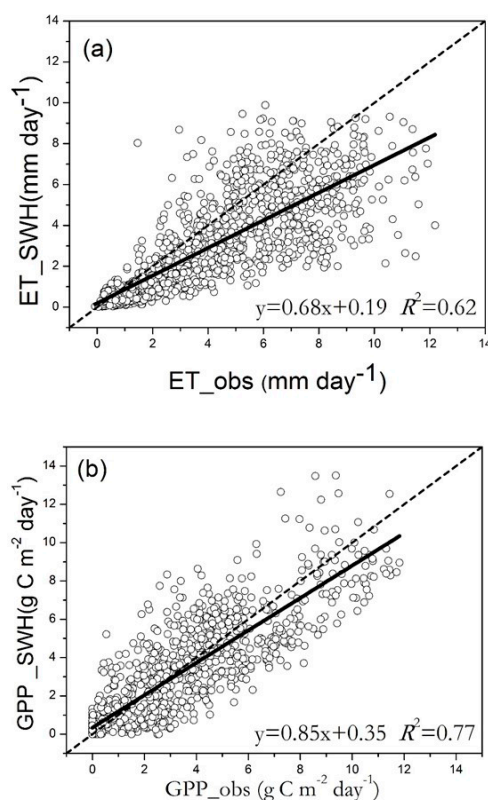


Figure S2. Comparisons of eight-day ET (a) and GPP (b) derived from eddy covariance and estimated by the regionalized SWH model, which was driven by the 10-km interpolated meteorological products.

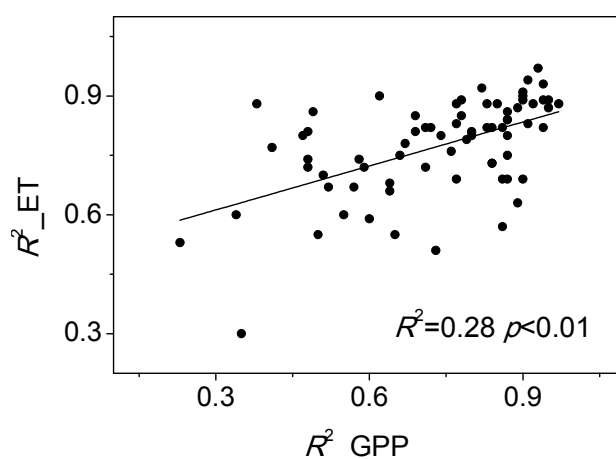


Figure S3. Correlation between the model performance on GPP simulation and ET simulation. R^2_{GPP} and R^2_{ET} are the determinant coefficient of the relationship between modeled and measured GPP and ET, respectively.

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