

Supplemental Table 1. R^2 values for different products between EEFlux and METRIC by scene location and date for agricultural land uses.

R^2 (Agricultural Lands)												
Path	Row	Date	Satellite	T_s	Albedo	NDVI	Rn	G	H	ET _r	ET _r F	ET _a
29	31	6/28/2002	L5	1.00	0.98	0.99	0.72	0.87	0.94	---	0.96	0.95
29	31	8/15/2002	L5	1.00	0.95	0.99	0.29	0.88	0.73	---	0.94	0.91
29	31	9/8/2002	L7	0.98	0.96	0.99	0.61	0.66	0.90	---	0.93	0.88
29	32	5/3/2002	L7	0.98	0.98	0.99	0.79	0.03	0.83	---	0.87	0.87
29	32	6/28/2002	L5	1.00	0.99	0.99	0.86	0.82	0.92	---	0.97	0.91
29	32	8/15/2002	L5	1.00	0.97	1.00	0.66	0.84	0.87	---	0.97	0.95
29	32	9/8/2002	L7	0.99	0.97	0.99	0.69	0.57	0.93	---	0.95	0.94
30	31	5/2/2002	L5	0.97	0.90	0.97	0.62	0.75	0.53	---	0.65	0.64
30	31	6/11/2002	L7	0.99	0.96	0.96	0.87	0.31	0.91	---	0.92	0.90
30	31	7/29/2002	L7	0.98	0.88	0.96	0.83	0.44	0.94	---	0.95	0.95
30	31	9/15/2002	L7	0.97	0.95	0.94	0.74	0.71	0.54	---	0.81	0.54
30	32	5/2/2002	L5	0.99	0.91	0.96	0.75	0.14	0.84	---	0.86	0.85
30	32	6/11/2002	L7	0.99	0.95	0.93	0.87	0.08	0.95	---	0.94	0.88
30	32	7/29/2002	L7	1.00	0.93	0.99	0.91	0.86	0.98	---	0.98	0.98
30	32	9/15/2002	L7	0.98	0.95	0.94	0.79	0.75	0.75	---	0.87	0.72
37	30	7/15/2011	L5	0.98	0.85	0.86	0.10	0.71	0.52	---	0.29	0.26
37	30	7/23/2011	L7	0.99	0.99	0.96	0.26	0.77	0.48	---	0.64	0.46
37	30	8/16/2011	L5	1.00	0.99	0.99	0.91	0.63	0.80	---	0.95	0.92
37	30	9/1/2011	L5	1.00	0.97	0.99	0.61	0.61	0.73	---	0.87	0.82
37	30	9/25/2011	L7	1.00	0.96	0.98	0.84	0.33	0.81	---	0.93	0.89
37	31	7/15/2011	L5	1.00	1.00	0.98	0.43	0.85	0.83	---	0.81	0.75
37	31	7/23/2011	L7	1.00	1.00	0.99	0.61	0.79	0.80	---	0.90	0.88
37	31	8/16/2011	L5	1.00	0.99	0.99	0.93	0.79	0.95	---	0.96	0.96
37	31	9/1/2011	L5	1.00	0.99	0.99	0.68	0.70	0.88	---	0.89	0.86
39	37	1/26/2014	L8	1.00	0.98	0.98	0.79	0.50	0.99	---	0.93	0.91
39	37	2/11/2014	L8	1.00	0.99	0.98	0.85	0.53	0.98	---	0.96	0.93
39	37	3/15/2014	L8	1.00	0.99	1.00	0.86	0.33	0.92	---	0.91	0.81
39	37	3/31/2014	L8	1.00	0.99	1.00	0.94	0.63	0.99	---	0.98	0.96
39	37	4/16/2014	L8	1.00	0.99	1.00	0.96	0.48	0.99	---	0.97	0.96
39	37	5/2/2014	L8	1.00	0.99	1.00	0.94	0.17	0.96	---	0.93	0.90

8 Supplemental Table 1. (continued)

R ² (Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	Rn	G	H	ET _r	ET _r F	ET _a
39	37	6/19/2014	L8	1.00	1.00	1.00	0.97	0.08	0.88	---	0.76	0.72
39	37	7/21/2014	L8	1.00	1.00	1.00	0.96	0.01	0.97	---	0.91	0.84
39	37	8/6/2014	L8	1.00	1.00	1.00	0.96	0.00	0.98	---	0.91	0.88
39	37	8/22/2014	L8	1.00	1.00	1.00	0.88	0.73	0.97	---	0.87	0.79
39	37	9/23/2014	L8	1.00	0.99	0.98	0.89	0.16	0.72	---	0.76	0.76
39	37	10/9/2014	L8	1.00	0.99	0.99	0.88	0.46	0.99	---	0.91	0.92
39	37	11/10/2014	L8	1.00	0.98	0.99	0.76	0.59	0.98	---	0.95	0.95
40	30	3/19/2016	L7	0.99	0.94	0.99	0.64	0.31	0.72	---	0.62	0.53
40	30	4/20/2016	L7	1.00	0.96	1.00	0.92	0.75	0.99	---	0.97	0.92
40	30	5/30/2016	L8	1.00	0.97	1.00	0.94	0.53	0.90	---	0.95	0.89
40	30	6/7/2016	L7	0.99	0.94	0.99	0.94	0.72	0.98	---	0.94	0.80
40	30	6/23/2016	L7	0.99	0.97	0.99	0.94	0.27	0.95	---	0.94	0.88
40	30	7/1/2016	L8	0.99	0.95	0.99	0.85	0.76	0.92	---	0.93	0.85
40	30	7/9/2016	L7	0.99	0.97	0.99	0.93	0.43	0.96	---	0.95	0.88
40	30	7/25/2016	L7	1.00	0.96	1.00	0.95	0.65	0.99	---	0.96	0.89
40	30	8/2/2016	L8	0.99	0.96	0.98	0.90	0.21	0.90	---	0.84	0.81
40	30	8/10/2016	L7	1.00	0.99	1.00	0.96	0.72	0.96	---	0.96	0.91
40	30	8/18/2016	L8	0.99	0.95	0.99	0.92	0.06	0.98	---	0.94	0.89
40	30	9/11/2016	L7	0.98	0.95	0.99	0.81	0.10	0.88	---	0.82	0.71
40	30	9/19/2016	L8	1.00	0.94	1.00	0.83	0.67	0.96	---	0.95	0.90
40	30	9/27/2016	L7	0.99	0.94	1.00	0.73	0.66	0.97	---	0.93	0.73
40	30	10/21/2016	L8	0.98	0.93	1.00	0.40	0.85	0.93	---	0.75	0.36
45	31	4/30/2004	L5	1.00	0.99	0.98	0.89	0.72	0.79	---	0.92	0.90
45	31	6/1/2004	L5	0.99	0.95	0.97	0.79	0.81	0.74	---	0.92	0.91
45	31	8/4/2004	L5	1.00	0.99	0.99	0.90	0.77	0.93	---	0.96	0.93
45	31	8/20/2004	L5	1.00	0.98	0.99	0.90	0.85	0.96	---	0.98	0.96
45	31	9/21/2004	L5	0.99	0.98	0.99	0.83	0.79	0.87	---	0.95	0.94
45	31	10/7/2004	L5	0.99	0.98	0.96	0.85	0.69	0.93	---	0.95	0.94

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15 Supplemental Table 2. R² values for different products between EEFlux and METRIC by
 16 scene location and date for non-agricultural land uses.

R ² (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	Rn	G	H	ET _r	ET _r F	ET _a
29	31	6/28/2002	L5	1.00	0.95	1.00	0.71	0.69	0.90	---	0.84	0.83
29	31	8/15/2002	L5	1.00	0.96	0.99	0.67	0.65	0.83	---	0.83	0.84
29	31	9/8/2002	L7	0.99	0.94	0.99	0.54	0.52	0.92	---	0.83	0.81
29	32	5/3/2002	L7	0.97	0.98	0.99	0.69	0.67	0.11	---	0.17	0.17
29	32	6/28/2002	L5	1.00	0.95	1.00	0.77	0.39	0.82	---	0.68	0.65
29	32	8/15/2002	L5	1.00	0.95	0.99	0.61	0.37	0.85	---	0.73	0.74
29	32	9/8/2002	L7	0.98	0.93	0.99	0.44	0.35	0.77	---	0.62	0.62
30	31	5/2/2002	L5	0.93	0.59	0.85	0.02	0.17	0.01	---	0.12	0.12
30	31	6/11/2002	L7	0.98	0.81	0.91	0.50	0.38	0.89	---	0.87	0.86
30	31	7/29/2002	L7	0.94	0.73	0.79	0.47	0.00	0.86	---	0.83	0.83
30	31	9/15/2002	L7	0.94	0.64	0.93	0.14	0.33	0.85	---	0.67	0.70
30	32	5/2/2002	L5	0.97	0.63	0.83	0.08	0.29	0.08	---	0.18	0.16
30	32	6/11/2002	L7	0.97	0.72	0.89	0.42	0.18	0.75	---	0.75	0.76
30	32	7/29/2002	L7	0.96	0.69	0.91	0.41	0.00	0.91	---	0.75	0.75
30	32	9/15/2002	L7	0.97	0.65	0.95	0.26	0.21	0.74	---	0.49	0.49
37	30	7/15/2011	L5	1.00	1.00	0.99	0.91	0.38	0.68	---	0.78	0.79
37	30	7/23/2011	L7	1.00	0.99	0.99	0.87	0.64	0.30	---	0.71	0.69
37	30	8/16/2011	L5	1.00	0.99	0.99	0.94	0.36	0.60	---	0.84	0.83
37	30	9/1/2011	L5	1.00	0.99	0.98	0.79	0.44	0.32	---	0.71	0.72
37	30	9/25/2011	L7	0.99	0.98	0.97	0.76	0.46	0.47	---	0.69	0.62
37	31	7/15/2011	L5	1.00	0.99	1.00	0.93	0.53	0.76	---	0.85	0.85
37	31	7/23/2011	L7	1.00	0.99	1.00	0.92	0.55	0.55	---	0.85	0.84
37	31	8/16/2011	L5	1.00	0.98	0.99	0.83	0.18	0.65	---	0.64	0.57
37	31	9/1/2011	L5	1.00	0.99	0.99	0.86	0.17	0.80	---	0.75	0.78
39	37	1/26/2014	L8	1.00	0.96	0.56	0.71	0.37	0.76	---	0.38	0.38
39	37	2/11/2014	L8	1.00	0.97	0.69	0.66	0.34	0.60	---	0.57	0.58
39	37	3/15/2014	L8	1.00	0.96	0.86	0.63	0.25	0.42	---	0.10	0.09
39	37	3/31/2014	L8	1.00	0.94	0.93	0.70	0.16	0.79	---	0.33	0.33
39	37	4/16/2014	L8	1.00	0.96	0.96	0.71	0.02	0.44	---	0.24	0.24
39	37	5/2/2014	L8	1.00	0.97	0.94	0.79	0.17	0.39	---	0.27	0.26

22 Supplemental Table 2. (continued)

R ² (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	Rn	G	H	ET _r	ET _r F	ET _a
39	37	6/19/2014	L8	1.00	0.98	0.93	0.82	0.02	0.25	---	0.12	0.12
39	37	7/21/2014	L8	1.00	0.98	0.96	0.83	0.12	0.65	---	0.32	0.31
39	37	8/6/2014	L8	1.00	0.98	0.88	0.77	0.08	0.78	---	0.41	0.37
39	37	8/22/2014	L8	1.00	0.97	0.95	0.68	0.21	0.82	---	0.64	0.77
39	37	9/23/2014	L8	1.00	0.95	0.86	0.66	0.11	0.48	---	0.35	0.35
39	37	10/9/2014	L8	1.00	0.97	0.88	0.76	0.02	0.92	---	0.73	0.72
39	37	11/10/2014	L8	1.00	0.92	0.90	0.66	0.51	0.88	---	0.33	0.33
40	30	3/19/2016	L7	0.98	0.94	0.97	0.62	0.23	0.83	---	0.48	0.49
40	30	4/20/2016	L7	0.98	0.92	0.96	0.69	0.46	0.85	---	0.72	0.73
40	30	5/30/2016	L8	1.00	0.97	0.97	0.69	0.37	0.68	---	0.65	0.63
40	30	6/7/2016	L7	0.99	0.97	0.96	0.90	0.25	0.96	---	0.88	0.89
40	30	6/23/2016	L7	0.98	0.89	0.95	0.80	0.15	0.74	---	0.62	0.62
40	30	7/1/2016	L8	0.99	0.87	0.98	0.83	0.32	0.75	---	0.60	0.61
40	30	7/9/2016	L7	0.98	0.84	0.91	0.81	0.12	0.62	---	0.61	0.60
40	30	7/25/2016	L7	0.99	0.88	0.98	0.84	0.22	0.93	---	0.85	0.84
40	30	8/2/2016	L8	0.99	0.91	0.92	0.76	0.02	0.76	---	0.77	0.77
40	30	8/10/2016	L7	1.00	0.97	0.99	0.89	0.10	0.94	---	0.88	0.88
40	30	8/18/2016	L8	0.99	0.91	0.97	0.76	0.12	0.94	---	0.75	0.77
40	30	9/11/2016	L7	0.98	0.93	0.92	0.63	0.04	0.82	---	0.55	0.53
40	30	9/19/2016	L8	0.99	0.93	0.99	0.58	0.21	0.82	---	0.81	0.81
40	30	9/27/2016	L7	0.97	0.90	0.95	0.60	0.21	0.86	---	0.57	0.60
40	30	10/21/2016	L8	0.96	0.82	0.97	0.30	0.56	0.70	---	0.21	0.19
45	31	4/30/2004	L5	0.99	0.97	0.96	0.75	0.50	0.21	---	0.31	0.33
45	31	6/1/2004	L5	1.00	0.96	0.98	0.84	0.74	0.02	---	0.41	0.41
45	31	8/4/2004	L5	1.00	0.99	0.95	0.80	0.46	0.44	---	0.59	0.59
45	31	8/20/2004	L5	1.00	0.97	0.98	0.75	0.30	0.58	---	0.63	0.62
45	31	9/21/2004	L5	1.00	0.96	0.97	0.76	0.59	0.18	---	0.42	0.47
45	31	10/7/2004	L5	1.00	0.97	0.93	0.68	0.64	0.39	---	0.43	0.45

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30 Supplemental Table 3. Slope values for different products between EEFlux and METRIC by
 31 scene location and date for agricultural land uses.

Slope (Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	Rn	G	H	ET _r	ET _{rF}	ET _a
29	31	6/28/2002	L5	1.00	0.99	1.15	1.03	1.55	1.35	1.14	0.82	0.94
29	31	8/15/2002	L5	1.00	1.01	1.15	1.01	1.44	2.07	1.09	0.74	0.80
29	31	9/8/2002	L7	1.00	1.00	1.22	1.02	1.45	0.99	1.15	0.88	1.01
29	32	5/3/2002	L7	1.00	1.00	1.15	0.98	1.38	1.25	0.98	0.53	0.52
29	32	6/28/2002	L5	1.00	0.98	1.14	1.04	1.57	1.00	1.30	1.00	1.29
29	32	8/15/2002	L5	1.00	0.99	1.14	0.99	1.42	1.57	1.14	0.75	0.85
29	32	9/8/2002	L7	1.00	0.99	1.20	1.03	1.44	0.96	1.27	0.91	1.15
30	31	5/2/2002	L5	1.00	1.01	1.16	0.98	1.70	1.37	0.94	0.55	0.51
30	31	6/11/2002	L7	1.00	1.00	1.14	0.99	1.55	1.39	0.92	0.70	0.64
30	31	7/29/2002	L7	1.00	0.99	1.14	1.05	1.55	1.15	1.14	0.89	1.01
30	31	9/15/2002	L7	1.00	1.05	1.21	0.97	1.33	1.75	1.05	0.85	0.87
30	32	5/2/2002	L5	1.00	1.00	1.15	0.99	1.45	1.01	0.92	0.81	0.74
30	32	6/11/2002	L7	1.00	1.01	1.16	1.01	1.38	1.09	0.97	0.80	0.78
30	32	7/29/2002	L7	1.00	0.99	1.12	1.06	1.64	1.31	1.11	1.00	1.10
30	32	9/15/2002	L7	1.00	1.04	1.20	0.99	1.36	1.50	0.98	1.02	0.99
37	30	7/15/2011	L5	1.00	1.01	1.13	1.07	1.46	1.95	1.06	0.96	1.01
37	30	7/23/2011	L7	1.00	1.02	1.14	1.06	1.43	2.39	0.95	0.91	0.86
37	30	8/16/2011	L5	1.00	1.01	1.13	0.97	1.31	1.51	0.94	0.82	0.77
37	30	9/1/2011	L5	1.00	1.01	1.15	1.01	1.32	1.44	0.90	1.03	0.91
37	30	9/25/2011	L7	1.00	1.04	1.22	0.97	1.14	0.95	1.03	1.05	1.08
37	31	7/15/2011	L5	1.00	1.01	1.10	1.06	1.52	1.68	1.05	1.00	1.05
37	31	7/23/2011	L7	1.00	1.02	1.13	1.05	1.41	1.52	0.95	1.02	0.97
37	31	8/16/2011	L5	1.00	1.01	1.11	1.01	1.29	1.18	0.94	1.13	1.06
37	31	9/1/2011	L5	1.00	1.01	1.14	1.03	1.51	1.36	0.92	1.03	0.95
39	37	1/26/2014	L8	1.00	1.00	1.21	1.03	1.21	0.77	1.27	1.28	1.53
39	37	2/11/2014	L8	1.00	0.99	1.17	1.04	1.38	0.88	1.39	1.01	1.32
39	37	3/15/2014	L8	1.00	0.99	1.11	1.04	1.29	0.85	1.60	1.01	1.49
39	37	3/31/2014	L8	1.00	0.99	1.09	1.04	1.22	0.96	1.32	1.04	1.26
39	37	4/16/2014	L8	1.00	0.99	1.07	1.05	1.26	1.02	1.31	0.95	1.14
39	37	5/2/2014	L8	1.00	0.99	1.04	1.05	1.24	1.08	1.31	0.79	0.90

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37 Supplemental Table 3. (continued)

Slope (Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	R _n	G	H	ET _r	ET _{rF}	ET _a
39	37	6/19/2014	L8	1.00	0.99	1.00	1.05	1.33	1.03	1.14	0.72	0.75
39	37	7/21/2014	L8	1.00	0.99	1.00	1.05	1.31	0.82	1.13	1.06	1.03
39	37	8/6/2014	L8	1.00	0.99	1.01	1.06	1.67	1.10	0.96	0.76	0.71
39	37	8/22/2014	L8	1.00	0.99	1.08	1.04	1.92	0.39	1.20	0.96	1.15
39	37	9/23/2014	L8	1.00	1.00	1.08	1.05	1.70	1.53	1.06	0.57	0.60
39	37	10/9/2014	L8	1.00	1.00	1.14	1.06	1.58	0.73	1.19	1.09	1.30
39	37	11/10/2014	L8	1.00	1.00	1.19	1.05	1.54	1.15	1.20	0.96	1.16
40	30	3/19/2016	L7	1.00	0.99	1.00	0.99	1.58	1.17	1.36	0.85	1.13
40	30	4/20/2016	L7	1.00	0.99	1.00	1.02	1.21	0.94	1.27	1.07	1.23
40	30	5/30/2016	L8	1.00	1.00	1.00	1.00	1.27	0.79	1.05	0.96	0.91
40	30	6/7/2016	L7	1.00	1.00	1.00	1.01	1.66	0.76	1.18	0.97	1.12
40	30	6/23/2016	L7	1.00	1.00	1.00	1.01	1.57	0.60	1.17	1.01	1.10
40	30	7/1/2016	L8	1.00	0.99	1.00	1.03	1.67	0.63	1.27	1.03	1.30
40	30	7/9/2016	L7	1.00	0.99	1.00	1.03	1.65	0.48	1.29	0.97	1.20
40	30	7/25/2016	L7	1.00	0.99	1.00	1.01	1.90	0.66	1.31	0.95	1.24
40	30	8/2/2016	L8	1.00	1.00	0.99	1.00	2.12	1.12	1.16	0.79	0.88
40	30	8/10/2016	L7	1.00	0.99	1.00	0.99	1.81	0.77	1.19	0.86	1.01
40	30	8/18/2016	L8	1.00	0.99	0.99	1.03	2.09	0.75	1.15	0.95	1.06
40	30	9/11/2016	L7	1.00	0.99	0.99	1.02	1.43	0.70	1.37	1.10	1.37
40	30	9/19/2016	L8	1.00	0.99	1.00	1.02	1.43	0.75	1.34	0.98	1.29
40	30	9/27/2016	L7	1.00	0.97	1.00	1.04	1.99	1.52	0.88	0.90	0.80
40	30	10/21/2016	L8	1.00	0.98	0.99	1.05	1.79	0.77	1.65	1.00	1.63
45	31	4/30/2004	L5	1.00	0.99	1.13	0.97	1.36	1.04	1.23	0.84	1.03
45	31	6/1/2004	L5	1.00	1.00	1.10	0.99	1.24	1.01	0.99	1.04	1.03
45	31	8/4/2004	L5	1.00	0.99	1.11	1.01	1.33	1.17	1.14	0.92	1.04
45	31	8/20/2004	L5	1.00	0.99	1.12	1.01	1.07	0.96	1.32	1.00	1.32
45	31	9/21/2004	L5	1.00	0.98	1.16	1.07	1.29	1.00	1.15	1.06	1.21
45	31	10/7/2004	L5	1.00	0.97	1.22	1.09	1.44	1.14	1.19	1.06	1.26

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44 Supplemental Table 4. Slope values for different products between EEFlux and METRIC by
 45 scene location and date for non-agricultural land uses.

Slope (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	Rn	G	H	ET _r	ET _{rF}	ET _a
29	31	6/28/2002	L5	1.00	0.99	1.16	1.02	1.52	1.59	1.16	0.64	0.74
29	31	8/15/2002	L5	1.00	0.99	1.21	0.99	1.24	1.38	1.08	0.58	0.62
29	31	9/8/2002	L7	1.00	0.99	1.23	1.02	1.23	1.16	1.19	0.63	0.72
29	32	5/3/2002	L7	1.00	1.00	1.15	0.98	1.21	1.40	0.99	0.28	0.28
29	32	6/28/2002	L5	1.00	0.98	1.15	1.04	1.43	1.06	1.33	0.76	0.99
29	32	8/15/2002	L5	1.00	0.99	1.21	0.98	1.26	1.34	1.14	0.45	0.51
29	32	9/8/2002	L7	1.00	0.99	1.22	1.03	1.19	1.11	1.28	0.62	0.79
30	31	5/2/2002	L5	1.00	0.99	1.15	0.99	1.60	1.90	0.93	0.17	0.16
30	31	6/11/2002	L7	1.00	1.01	1.14	1.00	1.54	1.82	0.94	0.54	0.49
30	31	7/29/2002	L7	1.00	0.99	1.16	1.06	1.52	1.33	1.14	0.68	0.77
30	31	9/15/2002	L7	1.00	1.03	1.22	0.97	1.47	1.83	1.13	0.35	0.36
30	32	5/2/2002	L5	1.00	1.00	1.14	0.99	1.52	1.26	0.91	0.52	0.47
30	32	6/11/2002	L7	1.00	1.00	1.15	1.02	1.51	1.43	1.04	0.57	0.58
30	32	7/29/2002	L7	1.00	0.99	1.15	1.07	1.53	1.26	1.11	0.74	0.82
30	32	9/15/2002	L7	1.00	1.01	1.22	1.00	1.45	1.38	1.08	0.51	0.53
37	30	7/15/2011	L5	1.00	1.01	1.14	0.99	1.46	1.53	1.02	0.50	0.50
37	30	7/23/2011	L7	1.00	1.02	1.18	0.99	1.19	1.44	0.90	0.63	0.56
37	30	8/16/2011	L5	1.00	1.01	1.18	0.98	1.23	1.27	0.89	0.66	0.56
37	30	9/1/2011	L5	1.00	1.01	1.20	1.00	1.17	1.21	0.85	0.61	0.51
37	30	9/25/2011	L7	1.00	1.03	1.33	0.97	1.02	0.88	0.99	1.05	0.99
37	31	7/15/2011	L5	1.00	1.00	1.11	0.99	1.34	1.40	1.03	0.55	0.53
37	31	7/23/2011	L7	1.00	1.02	1.16	0.99	1.05	1.09	0.96	0.71	0.61
37	31	8/16/2011	L5	1.00	1.01	1.11	1.01	0.93	0.80	0.93	1.28	1.10
37	31	9/1/2011	L5	1.00	1.01	1.16	1.03	1.25	1.20	0.95	0.64	0.55
39	37	1/26/2014	L8	1.00	1.00	1.17	1.02	0.91	0.62	1.19	1.31	1.54
39	37	2/11/2014	L8	1.00	0.99	1.11	1.03	1.31	1.07	1.36	1.02	1.36
39	37	3/15/2014	L8	1.00	0.99	1.03	1.04	0.84	0.75	1.36	0.74	0.98
39	37	3/31/2014	L8	1.00	0.99	0.99	1.05	0.91	0.87	1.14	0.87	0.98
39	37	4/16/2014	L8	1.00	0.99	0.95	1.06	0.90	0.79	1.16	0.90	1.03
39	37	5/2/2014	L8	1.00	0.99	0.93	1.04	0.87	0.77	1.16	0.98	1.14

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51 Supplemental Table 4. (continued)

Slope (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s	Albedo	NDVI	R _n	G	H	ET _r	ET _{rF}	ET _a
39	37	6/19/2014	L8	1.00	0.99	0.90	1.05	0.93	0.72	1.03	0.86	0.88
39	37	7/21/2014	L8	1.00	1.00	0.94	1.04	0.82	0.68	0.95	1.37	1.30
39	37	8/6/2014	L8	1.00	0.99	0.91	1.06	1.08	0.84	0.94	0.99	0.90
39	37	8/22/2014	L8	1.00	0.99	1.00	1.04	1.43	0.62	1.24	0.96	1.20
39	37	9/23/2014	L8	1.00	0.99	0.98	1.05	1.14	0.99	1.08	0.50	0.53
39	37	10/9/2014	L8	1.00	1.00	1.04	1.05	1.23	0.81	1.21	0.59	0.70
39	37	11/10/2014	L8	1.00	0.97	1.16	1.07	1.23	1.21	1.25	0.29	0.35
40	30	3/19/2016	L7	1.00	0.99	1.00	0.98	1.53	1.15	1.37	0.47	0.64
40	30	4/20/2016	L7	1.00	1.00	1.00	1.01	1.62	0.92	1.00	1.32	1.33
40	30	5/30/2016	L8	1.00	1.00	1.00	0.99	1.40	0.95	0.88	1.24	1.12
40	30	6/7/2016	L7	1.00	1.00	1.00	1.01	1.50	0.84	1.12	1.02	1.13
40	30	6/23/2016	L7	1.00	1.00	1.00	1.00	1.23	0.85	1.06	1.18	1.32
40	30	7/1/2016	L8	1.00	1.00	0.99	1.02	1.29	0.67	1.17	1.27	1.59
40	30	7/9/2016	L7	1.00	0.99	0.99	1.02	1.32	0.81	1.23	1.38	1.68
40	30	7/25/2016	L7	1.00	0.99	1.00	1.01	1.43	0.88	1.25	0.84	1.06
40	30	8/2/2016	L8	1.00	0.99	0.99	1.00	1.44	0.97	1.14	0.72	0.80
40	30	8/10/2016	L7	1.00	0.99	0.99	0.98	1.60	0.90	1.15	0.81	0.93
40	30	8/18/2016	L8	1.00	0.99	0.98	1.03	2.14	0.71	1.12	0.97	1.09
40	30	9/11/2016	L7	1.00	0.99	0.99	1.02	1.22	0.73	1.18	0.96	1.17
40	30	9/19/2016	L8	1.00	0.99	0.99	1.02	1.48	0.99	1.18	0.80	0.98
40	30	9/27/2016	L7	1.00	0.98	0.99	1.02	2.13	1.35	0.92	0.81	0.74
40	30	10/21/2016	L8	1.00	0.99	0.99	1.04	1.87	1.00	1.61	0.63	1.02
45	31	4/30/2004	L5	1.00	0.99	1.24	1.00	1.18	0.96	1.24	0.69	0.85
45	31	6/1/2004	L5	1.00	1.00	1.20	1.00	1.07	1.02	0.99	0.72	0.70
45	31	8/4/2004	L5	1.00	0.99	1.23	1.02	1.13	1.06	1.18	0.68	0.79
45	31	8/20/2004	L5	1.00	0.99	1.25	1.04	1.06	0.96	1.33	0.84	1.10
45	31	9/21/2004	L5	1.00	0.98	1.35	1.09	1.24	0.96	1.14	0.73	0.83
45	31	10/7/2004	L5	1.00	0.97	1.45	1.12	1.21	0.94	1.17	0.59	0.67

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58 Supplemental Table 5. RMSE values for different products between EEFlux and METRIC
 59 by scene location and date for agricultural land uses.

RMSE (Agricultural Lands)												
Path	Row	Date	Satellite	T _s (K)	Albedo	NDVI	Rn (W/m ²)	G (W/m ²)	H (W/m ²)	ET _r	ET _{rF}	ET _a (mm/d ²)
29	31	6/28/2002	L5	0.20	0.00	0.08	25.41	33.69	44.75	---	0.15	0.91
29	31	8/15/2002	L5	0.16	0.00	0.10	20.16	21.25	158.87	---	0.21	1.19
29	31	9/8/2002	L7	0.51	0.00	0.10	19.53	31.35	23.49	---	0.08	0.55
29	32	5/3/2002	L7	0.43	0.00	0.03	16.69	45.08	68.84	---	0.22	1.72
29	32	6/28/2002	L5	0.16	0.00	0.08	27.06	33.06	25.68	---	0.03	2.14
29	32	8/15/2002	L5	0.12	0.00	0.09	18.24	25.00	142.90	---	0.21	0.94
29	32	9/8/2002	L7	0.50	0.00	0.09	20.80	31.75	20.93	---	0.06	0.88
30	31	5/2/2002	L5	0.28	0.01	0.04	21.08	66.38	87.71	---	0.42	2.45
30	31	6/11/2002	L7	0.51	0.01	0.05	15.56	48.52	76.89	---	0.19	2.14
30	31	7/29/2002	L7	0.72	0.01	0.06	30.84	43.17	34.89	---	0.09	0.67
30	31	9/15/2002	L7	0.65	0.01	0.13	24.29	23.38	80.85	---	0.19	1.00
30	32	5/2/2002	L5	0.27	0.01	0.04	18.88	50.51	10.53	---	0.14	0.96
30	32	6/11/2002	L7	0.56	0.01	0.06	15.15	41.16	25.71	---	0.11	1.17
30	32	7/29/2002	L7	0.57	0.01	0.08	37.45	34.85	58.57	---	0.06	0.83
30	32	9/15/2002	L7	0.67	0.01	0.12	16.91	23.12	61.74	---	0.08	0.53
37	30	7/15/2011	L5	0.46	0.01	0.09	61.50	29.97	85.92	---	0.11	1.02
37	30	7/23/2011	L7	0.60	0.00	0.10	49.89	25.75	164.77	---	0.11	1.40
37	30	8/16/2011	L5	0.19	0.00	0.08	20.57	25.58	108.36	---	0.15	1.45
37	30	9/1/2011	L5	0.17	0.00	0.07	27.28	29.04	127.24	---	0.09	0.86
37	30	9/25/2011	L7	0.50	0.01	0.09	21.65	20.13	27.33	---	0.08	0.57
37	31	7/15/2011	L5	0.18	0.00	0.07	52.40	33.04	89.19	---	0.10	1.12
37	31	7/23/2011	L7	0.53	0.00	0.08	46.82	30.73	109.26	---	0.08	0.81
37	31	8/16/2011	L5	0.19	0.00	0.07	14.42	27.81	75.11	---	0.13	0.64
37	31	9/1/2011	L5	0.28	0.00	0.07	30.68	37.73	70.52	---	0.10	0.88
39	37	1/26/2014	L8	1.15	0.01	0.10	20.04	26.63	42.13	---	0.26	1.27
39	37	2/11/2014	L8	1.01	0.01	0.08	20.82	32.15	20.43	---	0.08	1.05
39	37	3/15/2014	L8	0.73	0.00	0.04	23.46	42.46	48.49	---	0.09	1.87
39	37	3/31/2014	L8	0.59	0.00	0.05	26.29	37.81	25.18	---	0.07	1.52
39	37	4/16/2014	L8	0.29	0.00	0.03	28.37	43.91	65.17	---	0.07	0.98
39	37	5/2/2014	L8	0.21	0.00	0.02	27.07	53.77	76.61	---	0.10	0.75

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64 Supplemental Table 5. (continued)

RMSE (Agricultural Lands)												
Path	Row	Date	Satellite	T _s (K)	Albedo	NDVI	R _n (W/m ²)	G (W/m ²)	H (W/m ²)	ET _r	ET _{rF}	ET _a (mm/d ²)
39	37	6/19/2014	L8	0.11	0.00	0.01	26.77	71.39	91.83	---	0.14	1.32
39	37	7/21/2014	L8	0.08	0.00	0.01	23.87	64.76	52.76	---	0.09	1.32
39	37	8/6/2014	L8	0.13	0.00	0.02	30.60	68.19	67.85	---	0.14	1.62
39	37	8/22/2014	L8	0.72	0.00	0.04	25.95	63.76	114.64	---	0.07	0.83
39	37	9/23/2014	L8	0.20	0.00	0.03	24.23	56.93	118.48	---	0.20	1.38
39	37	10/9/2014	L8	0.69	0.00	0.06	28.30	46.50	43.46	---	0.12	1.15
39	37	11/10/2014	L8	0.76	0.00	0.09	23.11	31.44	21.74	---	0.10	0.70
40	30	3/19/2016	L7	0.34	0.01	0.01	20.39	49.80	48.02	---	0.16	0.68
40	30	4/20/2016	L7	0.40	0.01	0.02	18.39	31.34	26.54	---	0.09	1.05
40	30	5/30/2016	L8	0.69	0.01	0.01	14.28	45.59	72.36	---	0.12	1.33
40	30	6/7/2016	L7	0.75	0.01	0.02	19.31	54.01	41.17	---	0.07	1.27
40	30	6/23/2016	L7	0.62	0.01	0.02	17.11	55.09	77.38	---	0.10	1.61
40	30	7/1/2016	L8	0.41	0.01	0.02	24.98	41.61	59.72	---	0.10	1.97
40	30	7/9/2016	L7	0.59	0.01	0.02	22.50	52.77	110.26	---	0.08	1.55
40	30	7/25/2016	L7	0.46	0.01	0.02	16.50	49.37	54.92	---	0.07	1.72
40	30	8/2/2016	L8	0.43	0.01	0.01	17.62	66.00	72.68	---	0.11	0.82
40	30	8/10/2016	L7	0.27	0.01	0.01	15.85	50.49	41.46	---	0.13	0.63
40	30	8/18/2016	L8	0.75	0.01	0.02	21.94	60.53	38.78	---	0.08	0.78
40	30	9/11/2016	L7	0.45	0.01	0.01	20.70	52.26	71.32	---	0.13	1.67
40	30	9/19/2016	L8	0.49	0.01	0.01	20.03	33.36	45.32	---	0.08	1.11
40	30	9/27/2016	L7	0.31	0.01	0.02	23.93	50.04	51.78	---	0.11	0.91
40	30	10/21/2016	L8	0.96	0.01	0.01	27.50	39.75	33.83	---	0.10	1.42
45	31	4/30/2004	L5	0.46	0.00	0.07	25.59	35.40	20.30	---	0.15	0.71
45	31	6/1/2004	L5	0.74	0.01	0.08	21.28	29.98	41.15	---	0.09	0.67
45	31	8/4/2004	L5	0.43	0.01	0.07	17.42	30.52	41.31	---	0.09	0.59
45	31	8/20/2004	L5	0.39	0.01	0.07	17.42	14.60	13.75	---	0.05	1.34
45	31	9/21/2004	L5	0.39	0.01	0.08	34.92	26.41	16.91	---	0.08	0.56
45	31	10/7/2004	L5	0.35	0.01	0.10	35.94	28.04	23.01	---	0.10	0.64

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71 Supplemental Table 6. RMSE values of different products in non-agricultural lands.

RMSE (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s (K)	Albedo	NDVI	Rn (W/m ²)	G (W/m ²)	H (W/m ²)	ET _r	ET _r F	ET _a (mm/d ²)
29	31	6/28/2002	L5	0.14	0.00	0.08	19.97	38.46	77.67	---	0.28	2.10
29	31	8/15/2002	L5	0.12	0.00	0.08	21.74	25.43	98.31	---	0.23	1.54
29	31	9/8/2002	L7	0.51	0.01	0.09	22.68	24.92	39.06	---	0.16	1.23
29	32	5/3/2002	L7	0.47	0.00	0.05	21.47	40.66	124.27	---	0.36	2.79
29	32	6/28/2002	L5	0.11	0.01	0.07	26.06	39.20	29.61	---	0.19	1.59
29	32	8/15/2002	L5	0.04	0.01	0.06	22.56	34.50	86.03	---	0.25	1.60
29	32	9/8/2002	L7	0.48	0.01	0.08	25.58	26.22	38.67	---	0.14	1.12
30	31	5/2/2002	L5	0.36	0.01	0.06	32.18	58.14	200.45	---	0.74	4.10
30	31	6/11/2002	L7	0.57	0.01	0.06	23.31	45.16	122.26	---	0.32	3.26
30	31	7/29/2002	L7	0.70	0.01	0.05	38.87	44.33	66.50	---	0.15	0.96
30	31	9/15/2002	L7	0.61	0.01	0.09	35.88	35.33	115.57	---	0.50	2.40
30	32	5/2/2002	L5	0.37	0.01	0.05	34.96	55.34	70.59	---	0.37	2.21
30	32	6/11/2002	L7	0.62	0.01	0.06	28.84	47.76	89.12	---	0.25	2.24
30	32	7/29/2002	L7	0.62	0.01	0.04	43.00	45.30	50.66	---	0.11	0.70
30	32	9/15/2002	L7	0.68	0.01	0.08	37.22	36.26	66.89	---	0.32	1.53
37	30	7/15/2011	L5	0.13	0.00	0.05	20.22	47.45	123.81	---	0.28	2.46
37	30	7/23/2011	L7	0.56	0.00	0.08	29.26	27.37	154.83	---	0.26	2.49
37	30	8/16/2011	L5	0.15	0.00	0.07	20.44	32.19	92.28	---	0.18	1.61
37	30	9/1/2011	L5	0.12	0.00	0.06	27.39	27.19	105.08	---	0.14	1.35
37	30	9/25/2011	L7	0.43	0.01	0.06	31.29	11.27	38.09	---	0.08	0.44
37	31	7/15/2011	L5	0.10	0.00	0.04	19.50	38.76	109.43	---	0.25	2.15
37	31	7/23/2011	L7	0.41	0.00	0.04	16.01	16.01	55.65	---	0.10	1.02
37	31	8/16/2011	L5	0.04	0.00	0.02	18.34	16.52	69.39	---	0.15	1.02
37	31	9/1/2011	L5	0.13	0.00	0.03	23.10	32.24	59.86	---	0.10	0.89
39	37	1/26/2014	L8	1.14	0.01	0.04	30.61	16.00	91.47	---	0.18	0.64
39	37	2/11/2014	L8	1.01	0.01	0.03	39.72	26.90	25.29	---	0.09	0.54
39	37	3/15/2014	L8	0.74	0.01	0.02	41.65	29.20	94.04	---	0.07	0.75
39	37	3/31/2014	L8	0.61	0.01	0.01	48.85	29.82	53.82	---	0.06	0.55
39	37	4/16/2014	L8	0.24	0.01	0.01	44.77	31.51	81.66	---	0.12	1.00
39	37	5/2/2014	L8	0.18	0.01	0.01	44.90	34.63	102.69	---	0.12	1.09

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77 Supplemental Table 6. (continued)

RMSE (Non-Agricultural Lands)												
Path	Row	Date	Satellite	T _s (K)	Albedo	NDVI	R _n (W/m ²)	G (W/m ²)	H (W/m ²)	ET _r	ET _{rF}	ET _a (mm/d ²)
39	37	6/19/2014	L8	0.14	0.01	0.01	36.25	34.84	108.02	---	0.18	1.78
39	37	7/21/2014	L8	0.07	0.01	0.01	32.73	37.41	128.62	---	0.13	1.45
39	37	8/6/2014	L8	0.10	0.01	0.01	43.53	36.48	63.54	---	0.12	1.17
39	37	8/22/2014	L8	0.71	0.01	0.01	38.18	53.69	100.37	---	0.12	0.87
39	37	9/23/2014	L8	0.19	0.01	0.01	48.29	31.98	51.55	---	0.12	0.86
39	37	10/9/2014	L8	0.71	0.01	0.02	41.66	39.28	45.44	---	0.19	0.78
39	37	11/10/2014	L8	0.79	0.01	0.03	51.14	24.56	44.88	---	0.21	0.90
40	30	3/19/2016	L7	0.33	0.01	0.02	23.06	50.60	48.30	---	0.34	0.85
40	30	4/20/2016	L7	0.40	0.01	0.02	17.59	47.40	24.41	---	0.15	0.89
40	30	5/30/2016	L8	0.58	0.00	0.02	14.57	58.33	40.98	---	0.13	0.98
40	30	6/7/2016	L7	0.72	0.01	0.02	16.53	51.40	42.33	---	0.12	1.13
40	30	6/23/2016	L7	0.48	0.01	0.02	13.98	30.40	58.46	---	0.13	1.42
40	30	7/1/2016	L8	0.33	0.01	0.02	18.90	36.76	114.90	---	0.28	2.48
40	30	7/9/2016	L7	0.46	0.01	0.01	16.24	36.66	74.01	---	0.14	1.43
40	30	7/25/2016	L7	0.51	0.01	0.01	17.29	40.44	42.51	---	0.10	0.89
40	30	8/2/2016	L8	0.34	0.01	0.01	19.11	42.02	36.59	---	0.08	0.69
40	30	8/10/2016	L7	0.28	0.01	0.01	20.48	54.61	36.55	---	0.10	0.55
40	30	8/18/2016	L8	0.75	0.01	0.02	28.61	78.90	89.59	---	0.15	1.14
40	30	9/11/2016	L7	0.35	0.01	0.01	21.59	30.14	94.22	---	0.10	0.94
40	30	9/19/2016	L8	0.44	0.01	0.01	20.72	39.40	20.69	---	0.07	0.32
40	30	9/27/2016	L7	0.34	0.01	0.02	25.49	60.99	48.16	---	0.10	0.60
40	30	10/21/2016	L8	0.90	0.01	0.02	25.07	40.68	14.06	---	0.16	0.33
45	31	4/30/2004	L5	0.43	0.00	0.09	29.08	27.42	34.79	---	0.19	0.78
45	31	6/1/2004	L5	0.42	0.00	0.08	23.03	20.82	57.92	---	0.19	1.31
45	31	8/4/2004	L5	0.44	0.00	0.09	31.92	27.85	45.08	---	0.16	0.88
45	31	8/20/2004	L5	0.40	0.01	0.09	37.13	23.71	32.79	---	0.11	0.79
45	31	9/21/2004	L5	0.40	0.00	0.12	54.24	29.63	43.46	---	0.18	0.53
45	31	10/7/2004	L5	0.41	0.01	0.16	58.53	23.13	43.06	---	0.23	0.66

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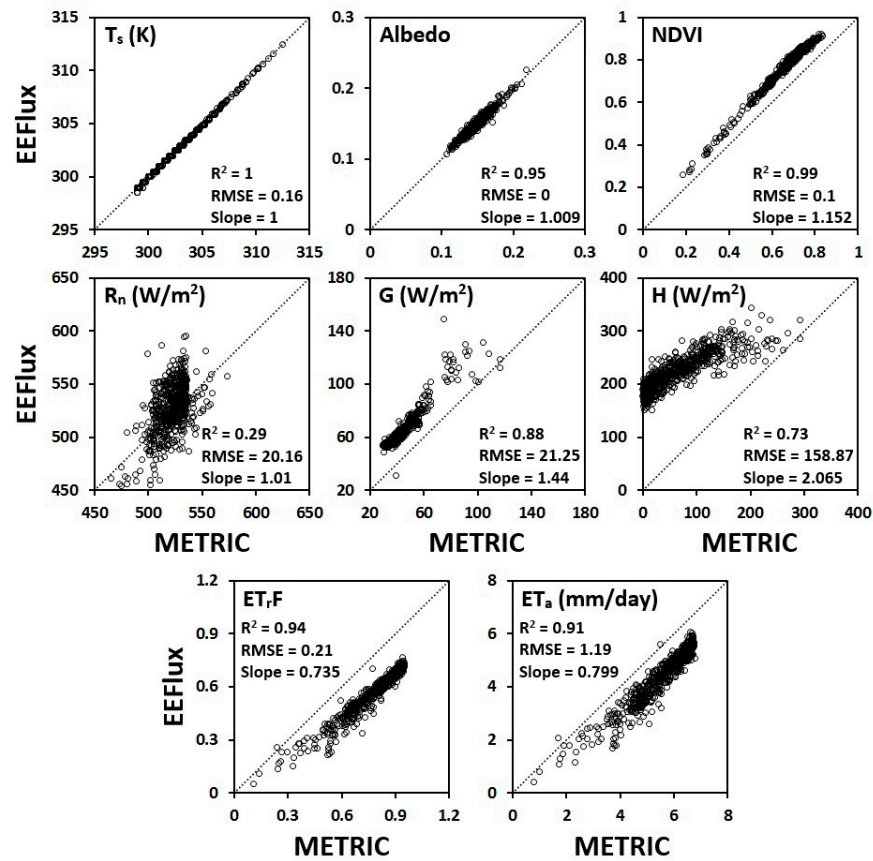
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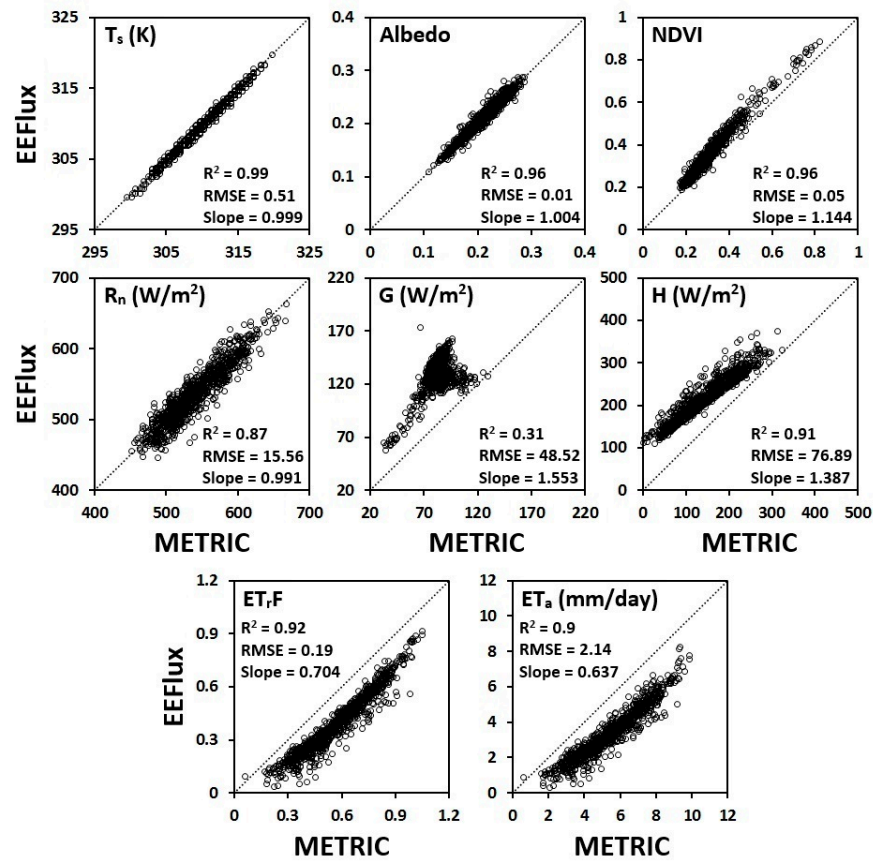
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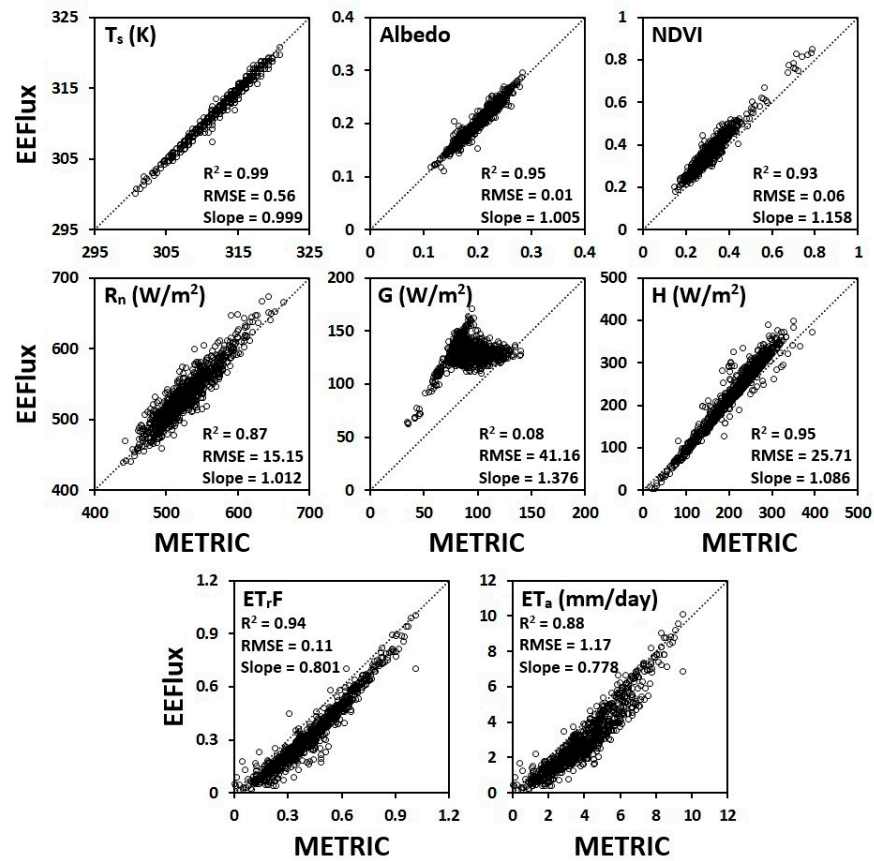
83



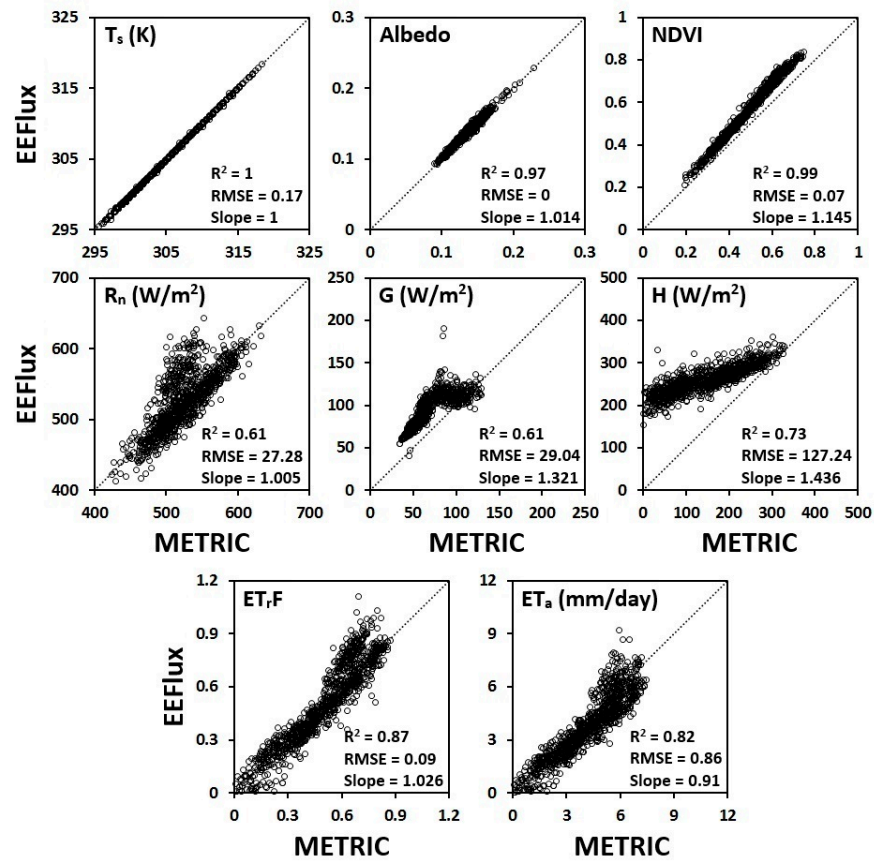
Supplemental Figure 1. Comparison between different components from EEFlux and METRIC models for Path 29 Row 31, Landsat 5, 2002/08/15.



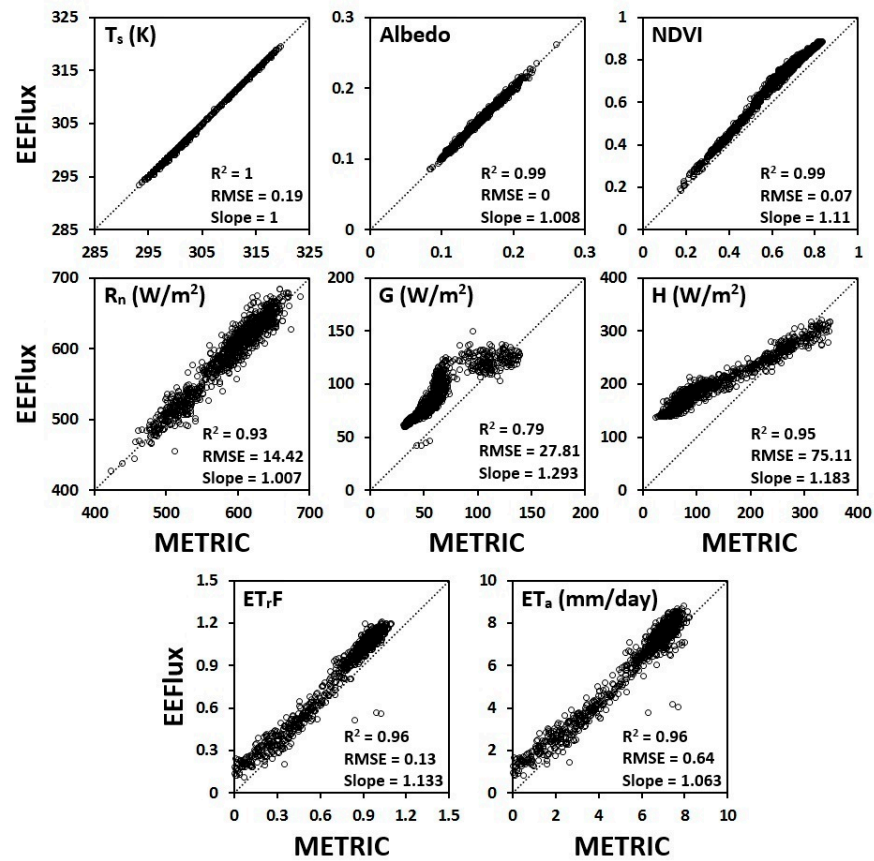
Supplemental Figure 2. Comparison between different components from EEFlux and METRIC models for Path 30 Row 31, Landsat 7, 2002/06/11.



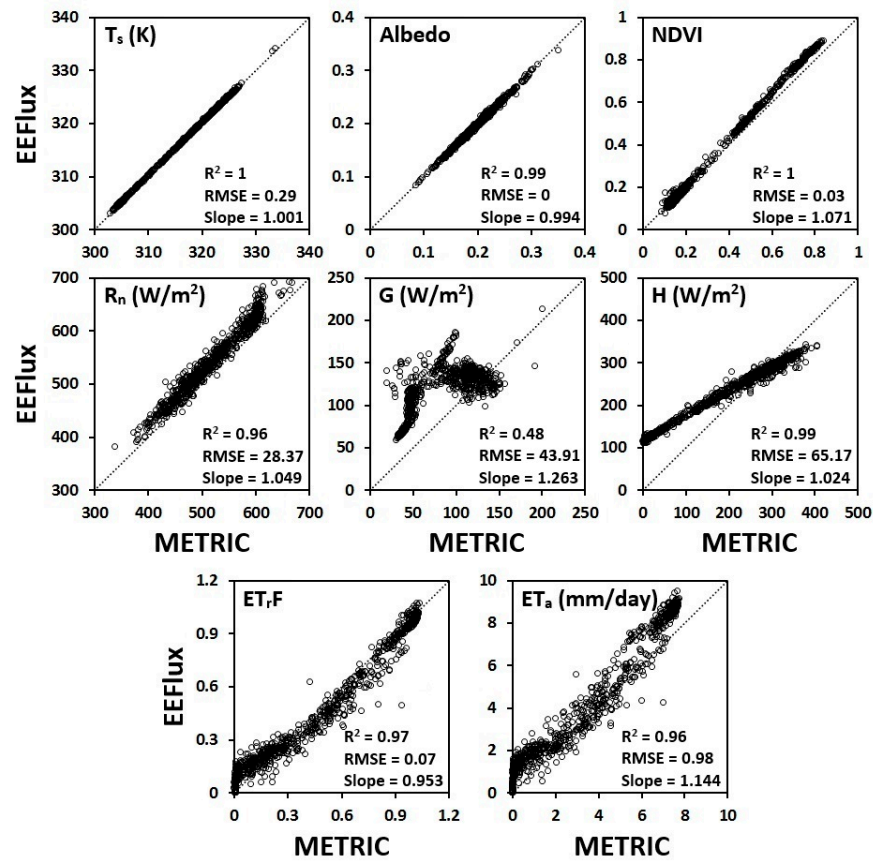
Supplemental Figure 3. Comparison between different components from EEFlux and METRIC models for Path 30 Row 32, Landsat 7, 2002/06/11.



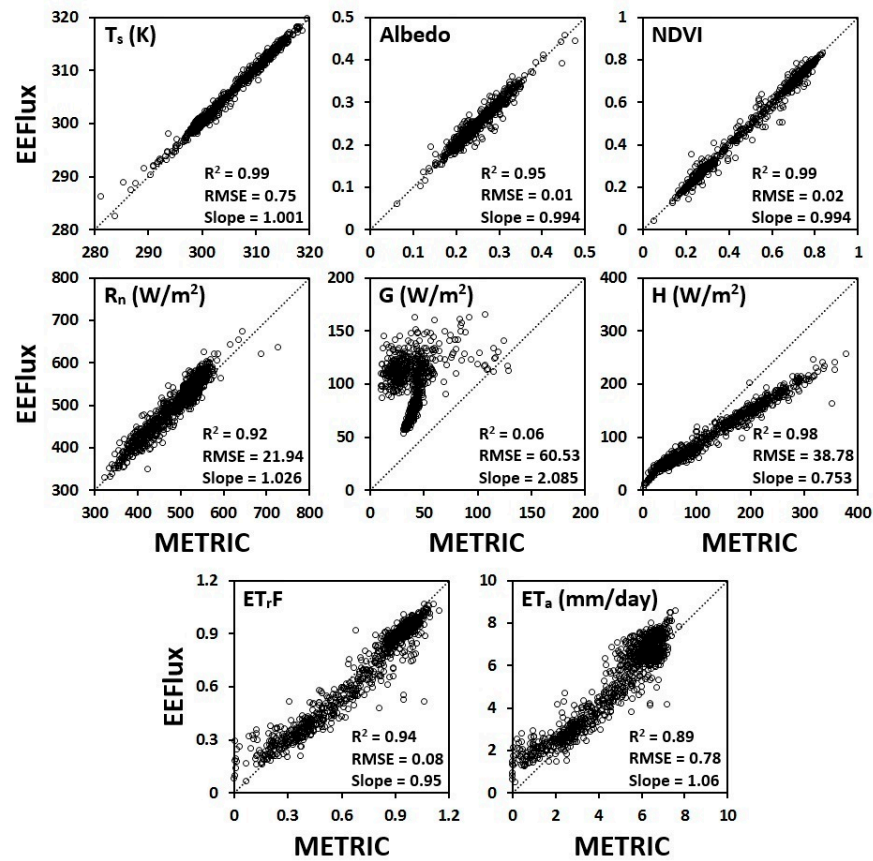
Supplemental Figure 4. Comparison between different components from EEFlux and METRIC models for Path 37 Row 30, Landsat 5, 2011/09/01.



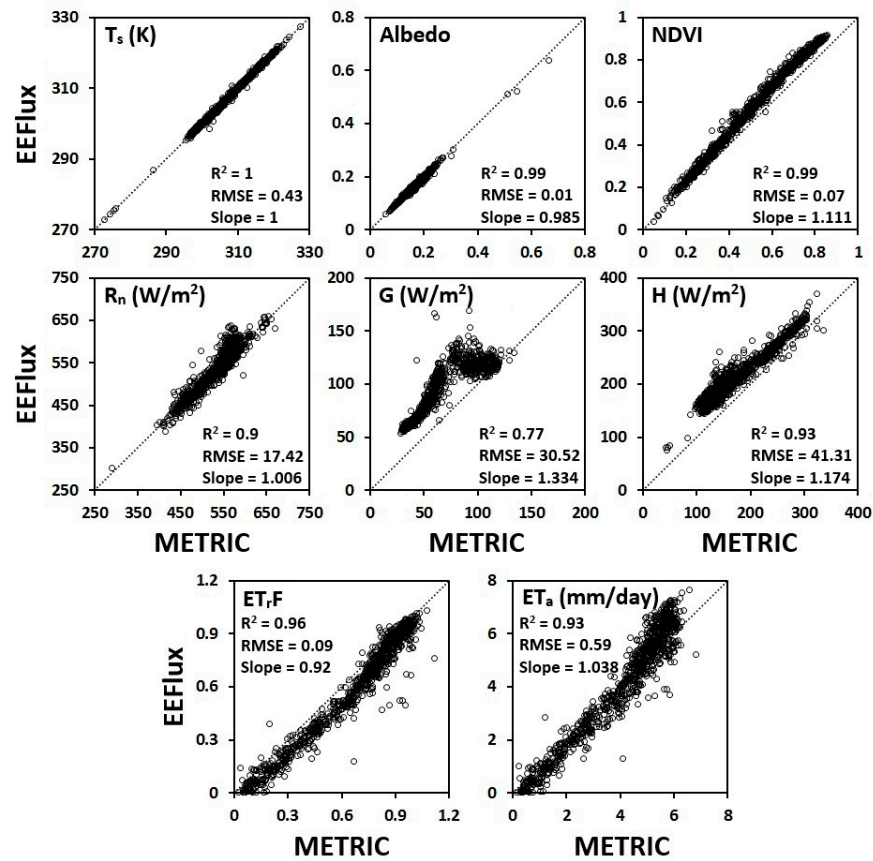
Supplemental Figure 5. Comparison between different components from EEFlux and METRIC models for Path 37 Row 31, Landsat 5, 2011/08/16.



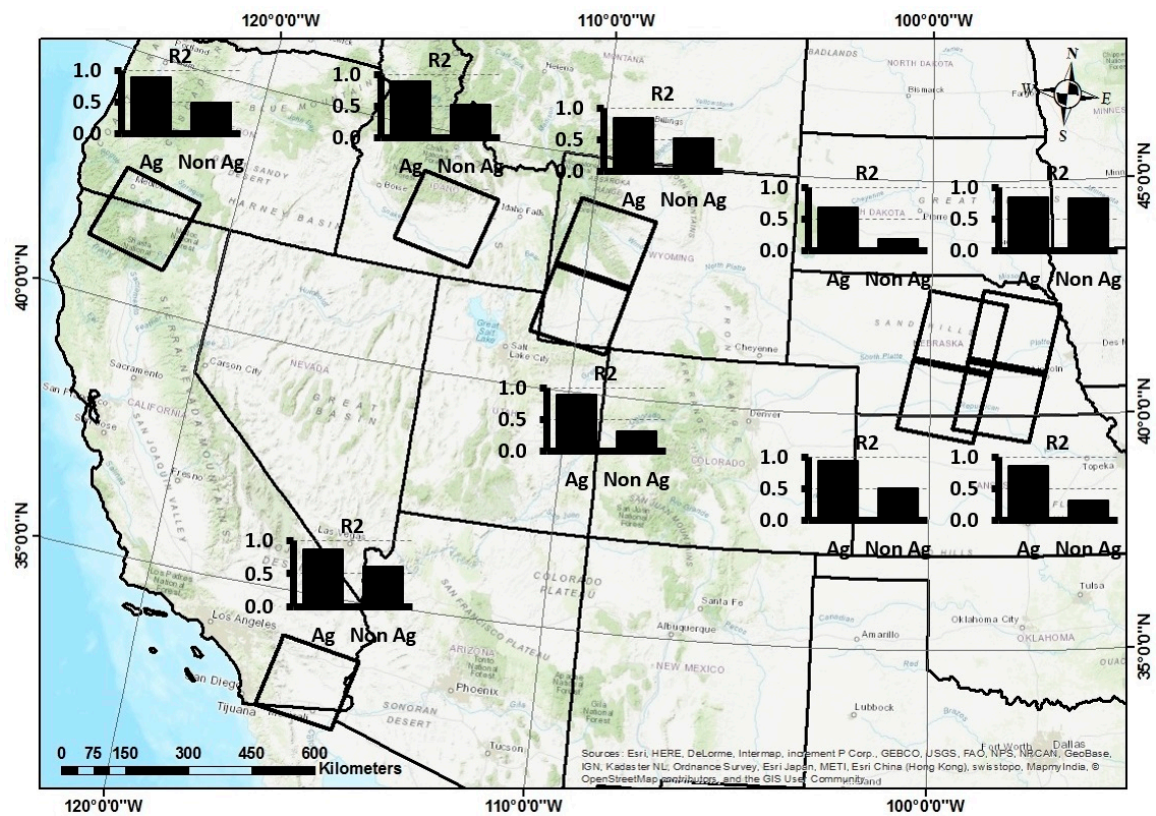
Supplemental Figure 6. Comparison between different components from EEFlux and METRIC models for Path 39 Row 37, Landsat 8, 2014/04/16.



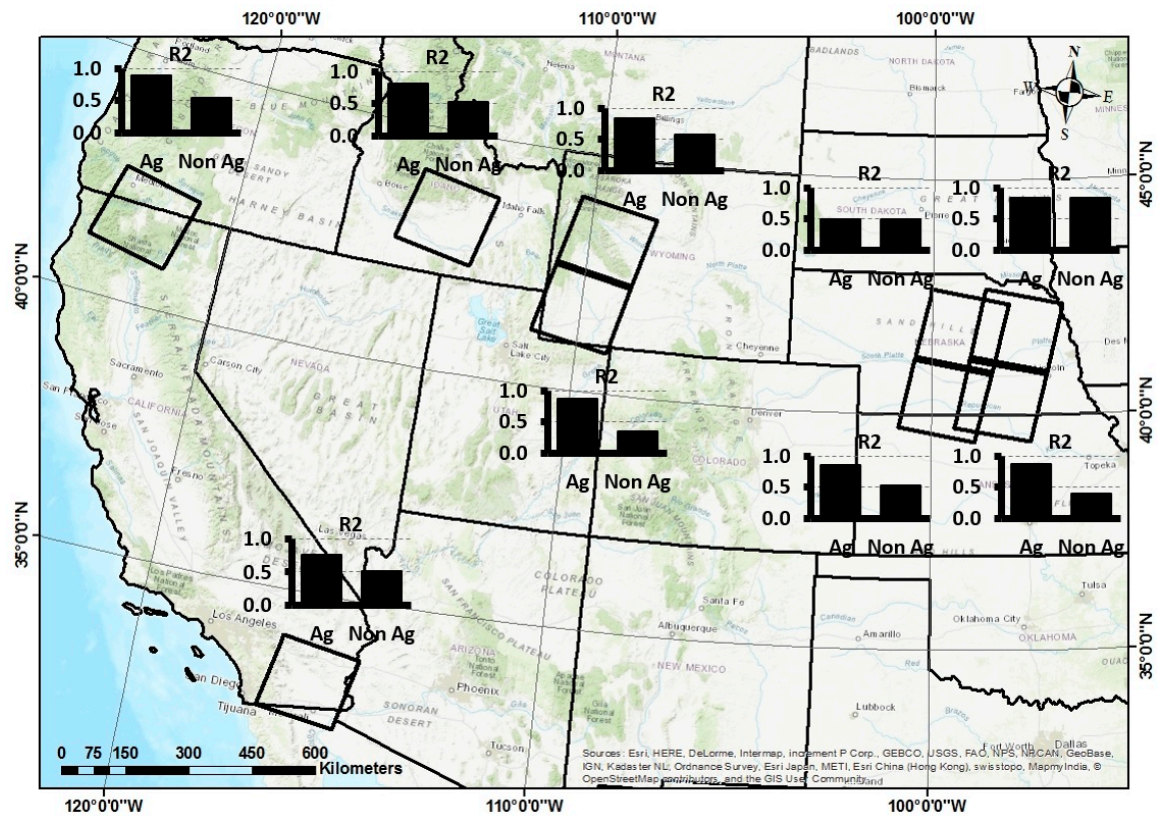
Supplemental Figure 7. Comparison between different components from EEFlux and METRIC models for Path 40 Row 30, Landsat 8, 2016/08/18.



Supplemental Figure 8. Comparison between different components from EEFlux and METRIC models for Path 45 Row 31, Landsat 5, 2004/08/04.



Supplemental Figure 9. Average R^2 values for ET_{rF} from EEFlux vs. METRIC for five locations across the western USA for agricultural and nonagricultural areas.



Supplemental Figure 10. Average R^2 values of ET_a from EEFlux vs. METRIC for five locations across the western USA for agricultural and nonagricultural areas.