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Supplement of

LandInG 1.0: a toolbox to derive input datasets for terrestrial ecosystem modelling at variable resolutions from heterogeneous sources

Sebastian Ostberg et al.

Correspondence to: Sebastian Ostberg (ostberg@pik-potsdam.de)

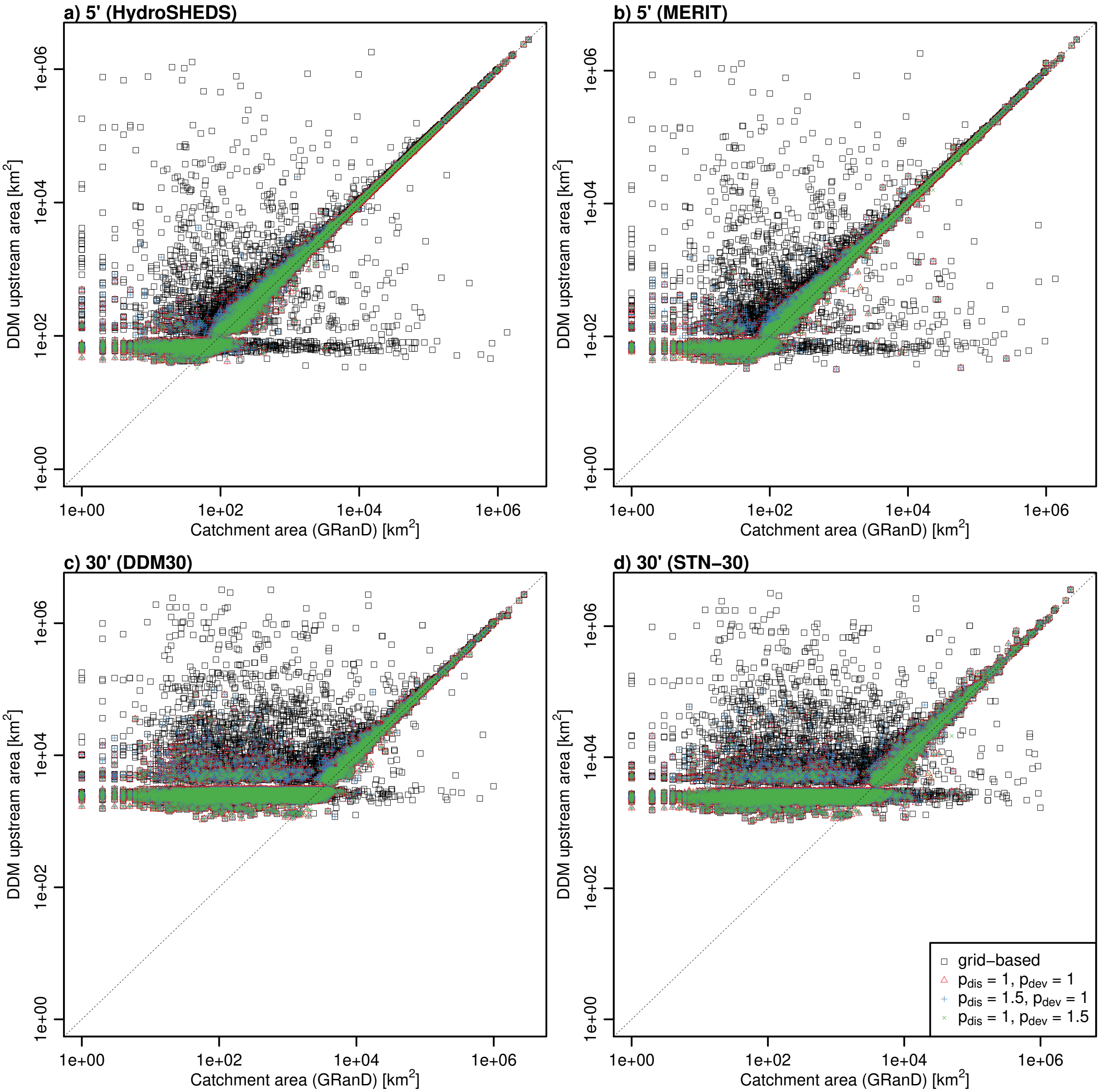

Figure S1. Comparison between reported catchment area and upstream area of assigned grid cell using 4 different drainage direction maps (DDMs) and 4 assignment strategies. DDMs at 5' spatial resolution by Lehner et al. (2008) (HydroSHEDS) and Eilander et al. (2020, 2021) (MERIT), DDMs at 30' spatial resolution by Döll and Lehner (2002) (DDM30) and Vörösmarty et al. (2000) (STN-30). Weighting-based assignment strategies (red, blue, and green symbols) significantly improve match between reported catchment area reported and DDM-derived upstream areas compared to grid-based assignment (black squares).

Table S1. Example diagnostics of spatial redistribution algorithm for Burkina Faso in 2015. total = total harvested area of crop in Burkina Faso, redist. = harvested area relocated by redistribution algorithm, additive = harvested area relocated by additive approach, OOP = harvested area located out of pattern, # iter. = number of iterations of redistribution algorithm, pattern: MON dataset has pattern for this crop in this country

Crop	**Rainfed harvested area [ha]**					**Irrigated harvested area [ha]**					**Pattern**
	total	*redist.*	*additive*	*OOP*	*# iter.*	*total*	*redist.*	*additive*	*OOP*	*# iter.*	
Almonds, with shell	2510	159	0	0	1000	195	6	2	0	17	TRUE
Fruit, fresh nes	12367	887	47	19	1000	963	36	11	1	20	TRUE
Maize	782289	134255	84	6175	1000	37828	2019	603	32	43	TRUE
Millet	1160718	65934	2779	4372	1000	–	–	–	–	–	TRUE
Oranges	129	10	0	0	1000	–	–	–	–	–	TRUE
Potatoes	558	35	0	0	1000	167	5	1	0	17	TRUE
Pulses nes	18766	1438	114	5	1000	–	–	–	–	–	TRUE
Rice, paddy	119394	20096	2	1110	1000	23321	1394	355	19	36	TRUE
Seed cotton	557840	57020	0	16480	940	–	–	–	–	–	TRUE
Sesame seed	374391	95161	0	6575	994	25864	1789	462	50	47	TRUE
Spices nes	3078	195	0	0	1000	213	6	2	0	17	TRUE
Sugar cane	102	28	0	1	1000	4697	284	83	35	30	TRUE
Vegetables, fresh nes	21382	1369	0	0	1000	1477	43	13	0	17	TRUE
Beans, green	677	43	0	0	1000	47	1	0	0	16	TRUE
Chillies and peppers, green	1587	101	0	0	1000	110	3	1	0	17	TRUE
Lemons and limes	43	3	0	0	1000	–	–	–	–	–	TRUE
Okra	2611	166	0	0	1000	180	5	2	0	18	TRUE
Onions, shallots, green	1033	66	0	0	1000	71	2	1	0	17	TRUE
Sorghum	1444937	88151	673	7810	1000	–	–	–	–	–	TRUE
Soybeans	18046	1147	0	2	1000	–	–	–	–	–	TRUE
Tangerines, mandarins, clementines, satsumas	40	3	0	0	1000	–	–	–	–	–	TRUE
Tobacco, unmanufactured	905	28	0	18	994	63	2	0	63	16	TRUE
Tomatoes	1147	77	0	0	1000	79	2	1	0	17	TRUE
Fruit, tropical fresh nes	1676	120	2	5	1000	131	5	1	0	19	TRUE
Grapefruit (inc. pomelos)	17	1	0	0	1000	–	–	–	–	–	TRUE
Groundnuts, with shell	432665	44429	890	2380	1000	–	–	–	–	–	TRUE
Cassava	3520	456	0	0	1000	–	–	–	–	–	TRUE
Yams	7304	1277	0	131	941	505	34	9	4	31	TRUE
Cashew nuts, with shell	107092	7065	0	0	1000	8339	245	74	0	19	TRUE
Sweet potatoes	5869	837	27	10	1000	405	12	7	3	18	TRUE
Mangoes, mangosteens, guavas	1430	103	2	4	1000	111	4	1	0	19	TRUE
Cow peas, dry	1185125	75983	0	11	1000	–	–	–	–	–	TRUE
Fonio	14726	2908	29	12	1000	1017	38	17	6	21	TRUE
Karite nuts (sheanuts)	30764	1964	0	0	1000	2396	70	21	0	18	TRUE
Bambara beans	42025	5196	13	236	1000	–	–	–	–	–	TRUE

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