



*Supplement of*

## **Assessing the response of soil carbon in Australia to changing inputs and climate using a consistent modelling framework**

**Juhwan Lee et al.**

*Correspondence to:* Raphael A. Viscarra Rossel ([r.viscarra-rossel@curtin.edu.au](mailto:r.viscarra-rossel@curtin.edu.au))

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**Table S1.** Sensitivities of total, particulate and mineral-associated organic C (TOC, POC and MAOC) stocks to changes in the allocation of C inputs into the decomposable plant material (DPM) and resistant plant material (RPM) components. The amount of C inputs to the soil and soil organic C stocks were simulated by assuming soil C equilibrium. The estimates of soil organic C were the area weighted averages of the medians for the following land uses across Australia: cropping, modified grazing, native grazing and natural environments. The amount of C input, soil organic C stocks, and their interquartile range and root mean squared error (RMSE) are reported in Mg C ha<sup>-1</sup>.

DPM/RPM	n	C input			TOC					POC					MAOC				
		Median	1st Q	3rd Q	Median	1st Q	3rd Q	<i>r</i> <sup>2</sup>	RMSE	Median	1st Q	3rd Q	<i>r</i> <sup>2</sup>	RMSE	Median	1st Q	3rd Q	<i>r</i> <sup>2</sup>	RMSE
Measured	4431				26.69	20.48	37.54			3.54	2.18	5.81			16.65	12.69	22.60		
Simulated																			
0.67	4417	1.47	0.93	2.36	25.89	19.26	35.26	0.88	9.82	5.95	4.05	8.47	0.77	4.98	13.08	9.38	17.60	0.69	8.28
0.96	4417	1.55	0.99	2.54	25.89	19.44	35.69	0.89	9.84	5.49	3.86	7.76	0.77	4.77	13.60	9.83	18.20	0.68	8.26
1.17	4417	1.63	1.04	2.60	25.83	19.48	36.15	0.88	10.08	5.15	3.69	7.42	0.76	4.75	13.85	10.13	18.80	0.68	8.46
1.44	4417	1.71	1.08	2.72	26.00	19.44	36.57	0.87	10.59	4.83	3.49	6.97	0.74	4.84	14.17	10.46	19.62	0.66	8.93
1.78	4419	1.77	1.14	2.83	26.16	19.55	36.54	0.86	11.42	4.46	3.22	6.41	0.72	5.03	14.67	10.94	20.13	0.64	9.71
2.23	4419	1.83	1.20	2.98	26.10	19.53	36.55	0.83	12.72	4.10	2.95	5.76	0.68	5.34	15.07	11.35	20.63	0.60	10.94