

# **Inorganic and black carbon constraints on blue carbon mitigation in fire hotspots for tropical seagrass and temperate tidal marshes**

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## **Introduction**

This document contains additional information cited to support the main articles' contentions, and uncited additional matrix and species parameters, for both context and future regional and global comparisons

Table S1 the Middle bank seagrass (Penang, Malaysia) sediment variables and locations. Note that pore water salinities were relatively constant across the meadow (30‰) as measured with a portable refractometer at stations 1, 2, 6, 8, and 15. All carbon contents were corrected for salt from their water content, obtained during dry bulk density measurements, and salinity of 30‰

<b>Station number</b>	<b>Latitude (decimal degree)</b>	<b>longitude (decimal degree)</b>	<b>Dry bulk density (g/ml)</b>	<b>TOC (%)</b>	<b>BC (%)</b>	<b>PIC (%)</b>
1	5.3898	100.3345	1.51	0.37	0.18	0.21
2	5.3905	100.3348	1.45	0.46	0.23	0.22
3	5.3912	100.3351	1.27	0.59	0.24	0.27
4	5.3916	100.3347	1.4	0.47	0.21	0.24
5	5.3912	100.3339	1.5	0.4	0.17	0.23
6	5.3913	100.3344	1.54	0.48	0.1	0.27
7	5.3917	100.3346	1.7	0.25	0.09	0.18
8	5.3904	100.3339	1.6	0.16	0.08	0.18
9	5.3898	100.3344	1.51	0.35	0.2	0.2
10	5.3905	100.3346	1.45	0.44	0.21	0.23
11	5.3912	100.3349	1.27	0.9	0.33	0.27
12	5.3916	100.3346	1.4	0.46	0.24	0.24
13	5.3912	100.3339	1.5	0.28	0.17	0.2
14	5.3913	100.3345	1.54	0.3	0.11	0.18
15	5.3917	100.3346	1.7	0.23	0.07	0.2

Table S2 Southeast Tasmanian (Australia) salt marsh sediment and plant variables, with sampling site locations

Site No	Latitude (decimal degree)	Longitude (decimal degree)	Site	Vegetation type	Soil depth (cm)	Peat	Sand	L/soil	Clay	Shell	Roots	pH	Salinity (‰)	Dry Bulk density (g/ml)	TOC (%)	BC (%)	PIC (%)	TN (%)	Organic carbon stable isotope ( $\delta^{13}C$ ‰)	
34a	-42.8577	147.8405	Hildyards Point	ASH	11	5	1	1			2	7.33	18.3	0.24	17.85	4.82	0.49	1.55	-26.02	
34b	-42.8577	147.8408		AGH	5								7.74	7.5	0.84	14.12	3.85	2.69	0.96	-25.59
34c	-42.8581	147.8414		AHM	5		2	1			5		7.11	11.0	0.46	7.96	1.19	0.41	0.59	-25.00
34d	-42.8592	147.8421		AHM	13		2	2	4			1	6.57	16.5	0.26	12.93	0.48	0.63	0.96	-24.32
34e	-42.8599	147.8426		ASH	22	3				4		2	7.18	9.3	0.34	3.62	2.16	0.26	0.35	-24.81
30a	-42.8200	147.8643	Sedbury Creek	ASH	>30	4	1	2	2		1	6.71	19.0	0.19	18.63	2.48	2.03	1.42	-24.65	
30b	-42.8198	147.8643		AHM	>30	5		2			2	6.29	24.4	0.20	18.79	0.27	1.54	1.39	-26.06	
30c	-42.8197	147.8631		ASH	>30	5				1		1	6.89	8.5	0.23	3.61	3.93	0.53	0.30	-24.43
30d	-42.8198	147.8625		ASQ	>30	5				2		2	6.14	20.8	0.20	16.48	2.05	1.67	1.22	-20.67
75a	-42.9358	147.8577	King George Sound	AGH	11			4		2	2	8.04	0.27	0.66	7.10	0.91	0.60	0.50	-24.53	
75b	-42.9359	147.8578		AHR	10			2		4	1	7.80	4.87	0.80	7.81	1.35	3.38	0.58	-23.48	
75c	-42.9375	147.8595		ASH	12	2		4		1	2	7.25	12.73	0.26	19.74	3.43	0.51	1.54	-21.88	
75d	-42.9389	147.8597		AGH	18		2	4			2	6.35	3.51	0.56	15.41	2.32	0.00	1.09	-24.48	
80a	-42.9003	147.9028	Blackman Bay Rivulet	AJK	25	2		4			2	5.45	6.43	0.30	21.58	2.29	0.67	1.48	-25.18	
80b	-42.9003	147.9024		AHM	20	5				1	2	5.85	23.33	0.17	23.05	3.31	1.07	1.40	-26.05	
80c	-42.9000	147.9018		ASQ	28	5					2	4.50	30.43	0.14	4.44	0.45	1.60	0.28	-26.59	
80d	-42.8995	147.9012		AHR	18	5		2			1	5.07	24.77	0.17	34.34	8.46	0.91	1.90	-25.53	
81a	-42.8811	147.9316	Swan Lagoon	AHM	15			5			1	5.40	5.37	0.32	17.04	6.22	0.57	1.33	-26.71	
81b	-42.8807	147.9330		AHM	13		2	5			2	4.96	10.67	0.40	18.06	1.95	0.00	1.36	-24.68	
81c	-42.8804	147.9356		ASQ	9		5	2	1			4.83	8.53	0.75	4.00	0.48	0.60	0.28	-24.81	
81d	-42.8801	147.9367		ASQ	10			5	1		1	5.67	10.20	0.44	18.52	3.73	0.68	1.36	-25.71	
81e	-42.8813	147.9322		AHM	18		2	5				5.32	1.40	0.61	12.01	1.58	0.50	0.82	-25.80	

Vegetation codes: AGH = *Graminoids* and herbs; AHM = mixed herbs; AHR = herbs and rushes; AJK = *Juncus kraussii*; ARH = rushes and herbs; ASH = shrubs and herbs; ASQ = *Sarcocornia quinqueflora*; ASS = *Sarcocornia* and *Samolus*.

Composition as peat, sand L/soil (loam), clay, shells, roots for the surface 10cm: 0 = <1%; 1 = 1 - 10%; 2 = 11 - 25%; 3 = 26 - 50%; 4 = 51 - 75%; 5 = >75%