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Decomposing the Tea Bag Index and finding slower organic matter loss rates at higher elevations and deeper soil horizons in a minerogenic salt marsh

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Supplementary Information

Table S1. Plot elevation (NAVD 88, m) and calculated relative elevation (Z*) (eq. 1) relative to the nearest NOAA tide gauge (Ft. Pulaski, GA 32.035N, 80.903W).

Plot Number	NAVD88 elevation (m)	Relative Elevation (Z*)
1	0.759	0.739
2	0.817	0.791
3	0.817	0.791
4	0.92	0.882
5	0.957	0.915
6	1.036	0.986
7	1.098	1.041
8	1.127	1.067
9	0.796	0.772
10	0.612	0.608
11	0.623	0.618
12	0.875	0.842
13	0.997	0.951
14	1.051	0.999
15	1.086	1.030
16	1.042	0.991
17	0.796	0.772
19	0.545	0.549
20	0.638	0.631
21	0.62	0.615
22	0.666	0.656
23	0.689	0.677
24	0.657	0.648

Table S2. Goodness of fit values (r^2) for the average rate of decomposition of fresh roots (± SE) from levee and plain salt marsh sites

Salinity (psu)	Salt Marsh Site	Decomposition Rate (k d^{-1})	r^2	p-value
16	Plain	0.0021	0.95	0.0001
	Levee	0.0015	0.85	0.0001
27	Plain	0.0019	0.91	0.0001
	Levee	0.0016	0.85	0.0001

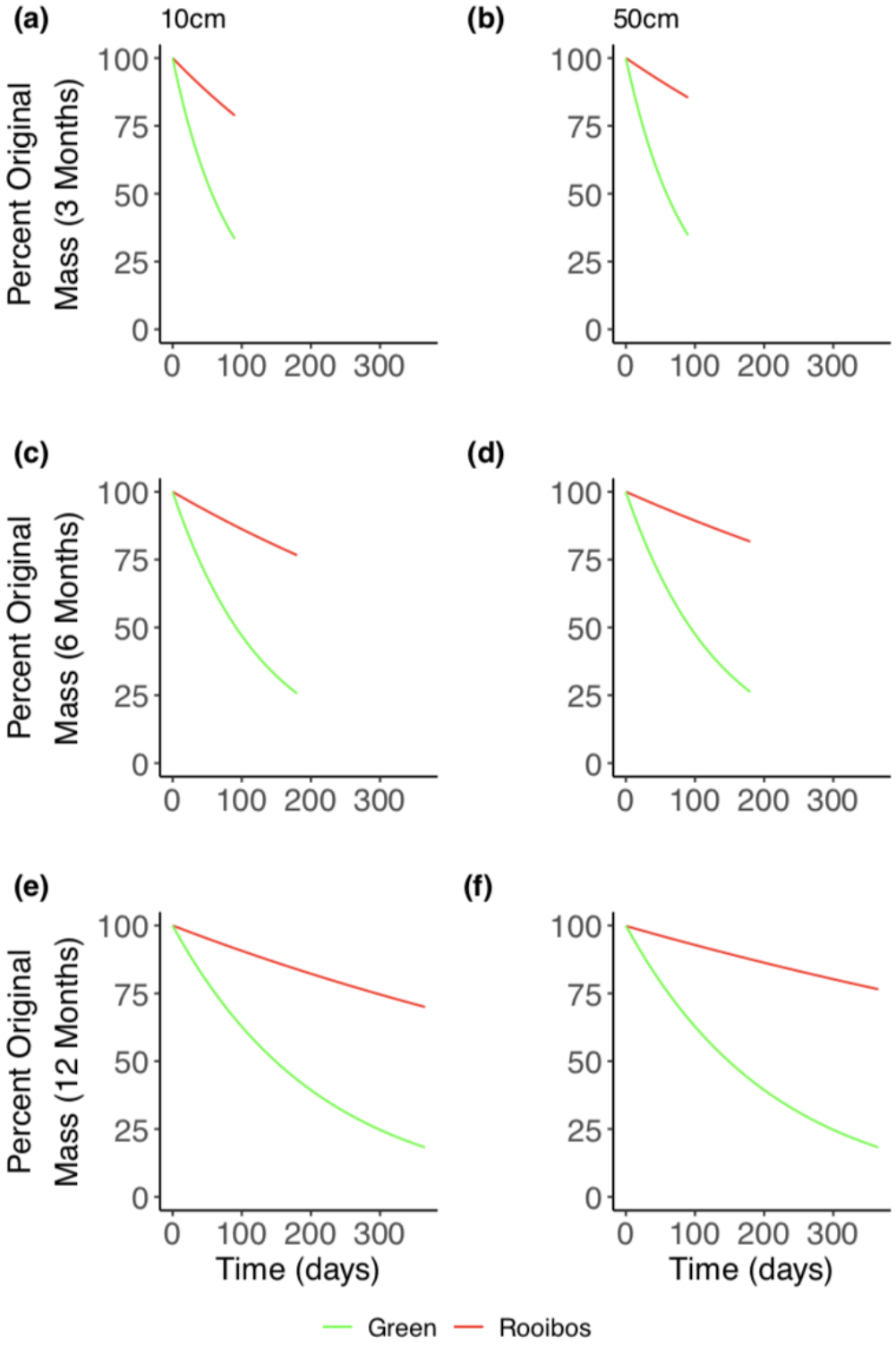

Figure S1. Average empirical decay rates of tea bags at 10 cm (left) and 50 cm (right) changed with tea bag type (rooibos, red; green, green) over time in days during 3- (top), 6- (middle), and 12- months (bottom).

Table S3. Values and studies listed for Fig. 5.

Decay ($k\ d^{-1}$)	Stabilization (S)	Latitude	Time (months)	Location	Labels	Study
0.012	0.34	31.5	3	Sapelo Island	GA, USA	
0.0041	0.22	31.5	6	Sapelo Island	GA, USA	
0.0026	0.26	31.5	12	Sapelo Island	GA, USA	
0.007	0.236	-37.7	3	Mar Chiquita	B, Argentina	Meuller et al 2018
0.0135	-0.033	37.6	3	Wachapreague	VA, USA	Meuller et al 2018
0.0145	0.0345	38.2	3	Rush Ranch	CA, USA	Meuller et al 2018
0.014	0.0585	38.2	3	Coon Island	CA, USA	Meuller et al 2018
0.0245	0.1825	53.4	3	Noord-Friesland Buitendijks	FR, Netherlands	Meuller et al 2018
0.000	0.504	48.1	3	Rimouski	QC, Canada	Meuller et al 2018
0.006	0.4215	53.8	3	Spiekeroog	NI, Germany	Meuller et al 2018
0.011	-0.078	42.7	3	TIDE project	MA, USA	Meuller et al 2018
0.012	-0.035	42.7	3	Laws Point	MA, USA	Meuller et al 2018
0.0165	-0.085	38.7	3	Patuxent River	MD, USA	Meuller et al 2018
0.008	0.219	40.8	3	Alfacs	TGN, Catalonia, Spain	Meuller et al 2018
0.008	-0.003	53.5	3	Schiermonnikoog	FR, Netherlands	Meuller et al 2018
0.005	0.258	45.5	3	Venice Lagoon (Meuller)	VEN, Italy	Meuller et al 2018
0.011	0.098	38.1	3	China Camp	CA, USA	Meuller et al 2018
0.0155	-0.0675	53.4	3	Ameland	FR, Netherlands	Meuller et al 2018
0.0195	0.0535	54.6	3	Sönke-Nissen-Koog	SH, Germany	Meuller et al 2018
0.0275	0.1505	54	3	Dieksanderkoog	SH, Germany	Meuller et al 2018
-0.001	0.347	40.8	3	Garxal	TGN, Catalonia, Spain	Meuller et al 2018
0.011	0.1655	45.1	3	Dipper Harbor	NB, Canada	Meuller et al 2018
0.017	0.161	54.6	3	Mechelinskie Laki	PM, Poland	Meuller et al 2018
0.0175	-0.1055	38.9	3	Rhode River	CA, USA	Meuller et al 2018
0.004	0.242	43.8	3	Long Marsh, north of inlet	ME, USA	Meuller et al 2018
0.007	0.189	43.8	3	Long Marsh, south of inlet	ME, USA	Meuller et al 2018
0.013	-0.028	31.5	3	Dongtan	ZJ, China	Meuller et al 2018
0.031	0.337	40.8	3	Vilacoto	TGN, Catalonia, Spain	Meuller et al 2018
0.007	0.195	43.8	3	Long Marsh, south of Narrows	ME, USA	Meuller et al 2018
0.008	0.40	54.6	12	Hamburger Hallig	SH, Germany	Tang et al 2023
0.012	0.015	45.3	3	Venice Lagoon (Puppin)	VEN, Italy	Puppin et al 2023
0.011	0.09	34.2	3	Wrightsville Beach	NC, USA	Yousefi Lalimi et al., 2018
0.008	0.18	56.0	3	Belhaven Bay	ELN, Scotland	Marley et al. 2019
0.003	0.15	56.0	12	Belhaven Bay	ELN, Scotland	Marley et al. 2019
0.011	0.18	25.7	3	Northeast Qatar	KH, Qatar	Alsafran et al. 2017
0.0086	0.16	41.6	3	Cape Cod	MA,USA	Sanderman and Eagle, unpb