

1 **Seagrass blue carbon stocks and sequestration rates in the Colombian Caribbean**

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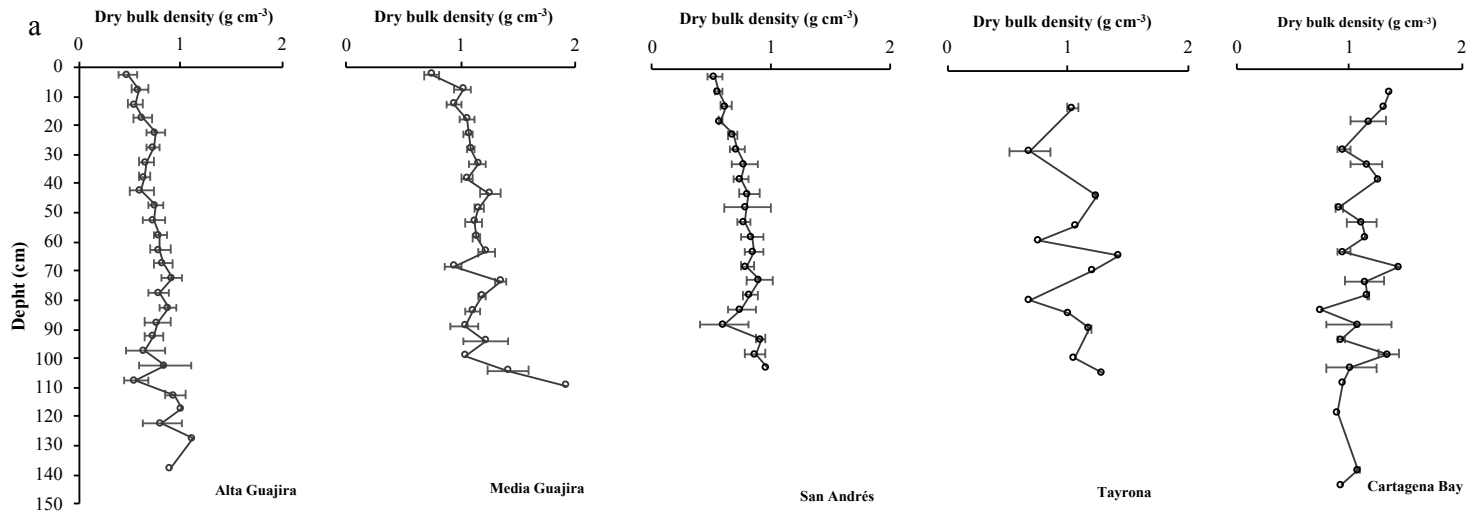
3 González-Corredor², Cristian Salinas¹, Pere Masque^{1,3}, Cesar Bernal², Núria Marbà⁴

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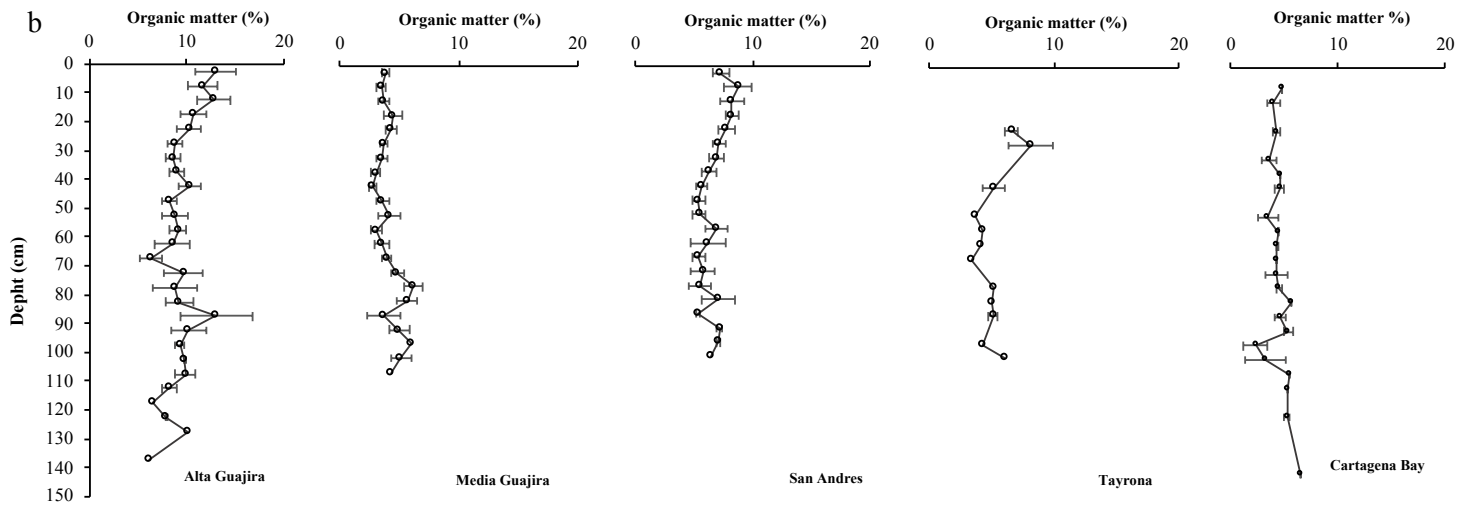
6 **Supplementary Information Figure A.** Mean (\pm SE) changes in the main components along the seagrass soil cores from the regions
 7 Alta Guajira, Media Guajira, San Andrés, Tayrona, Cartagena in the Colombian Caribbean. a) Dry bulk density (g cm^{-3}); b) Organic
 8 matter content (%); c) Cumulative soil organic carbon stocks ($\text{kg C}_{\text{org}} \text{m}^{-2}$ in 1-m thick); d) grain size particles $<0.016\text{mm}$ (%); e) grain
 9 size particles $> 0.5\text{mm}$ (%); f) $\delta^{13}\text{C}$ (‰); and g) soil organic carbon content (%).

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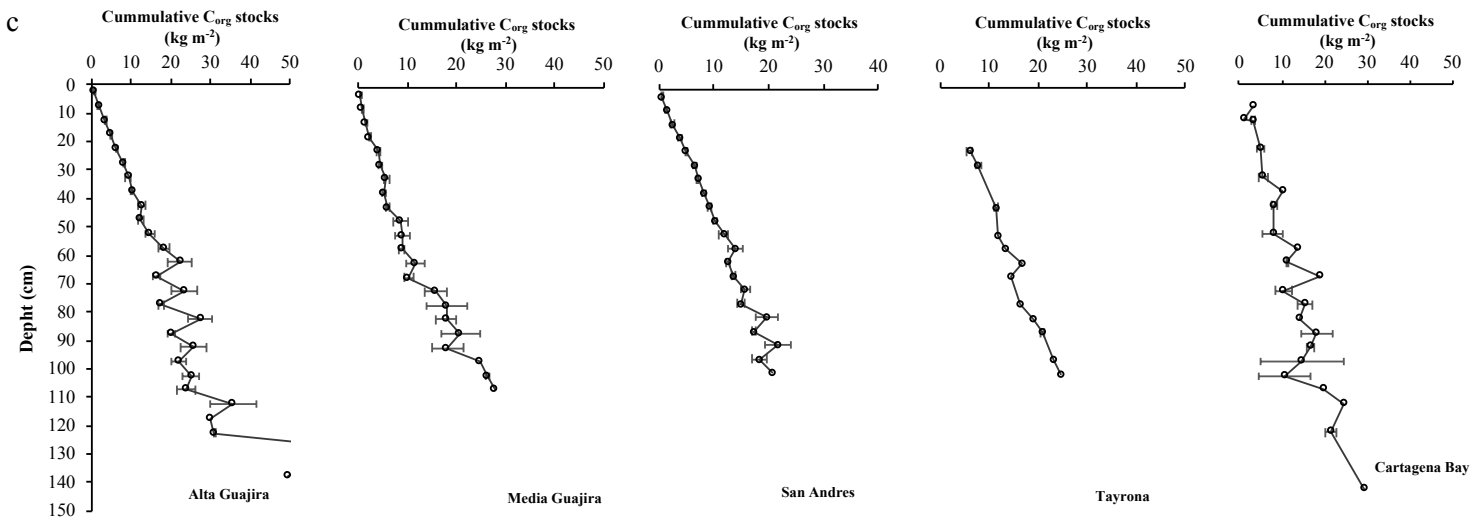


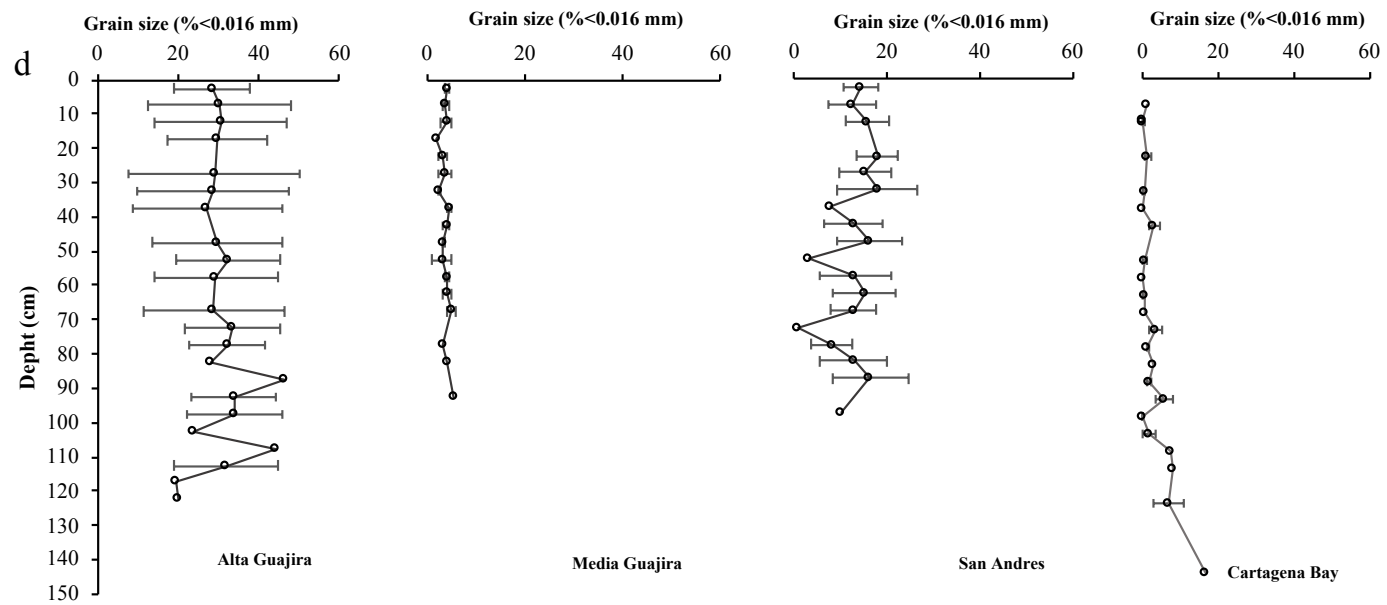
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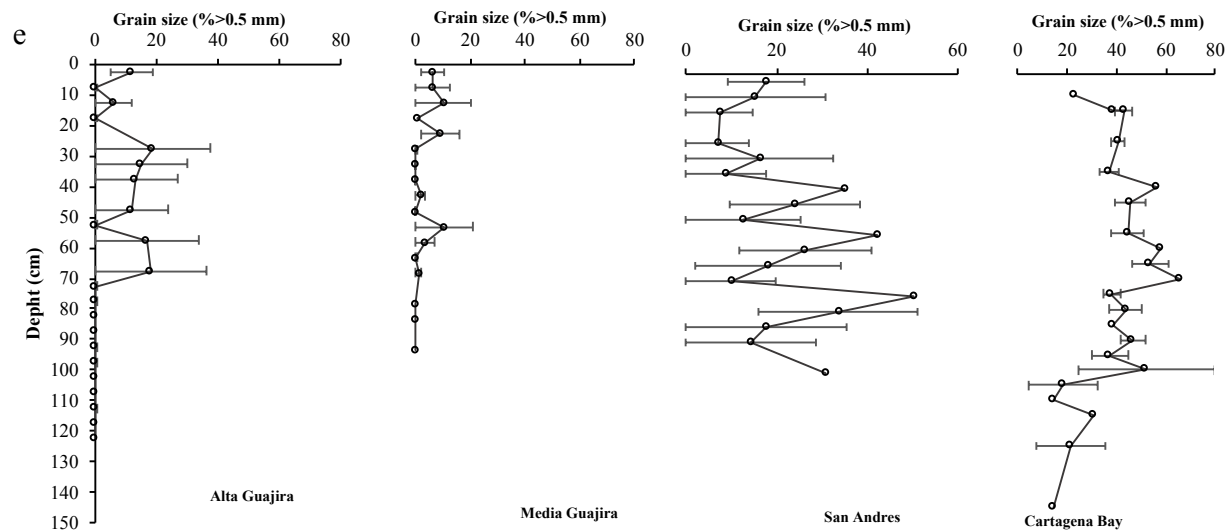
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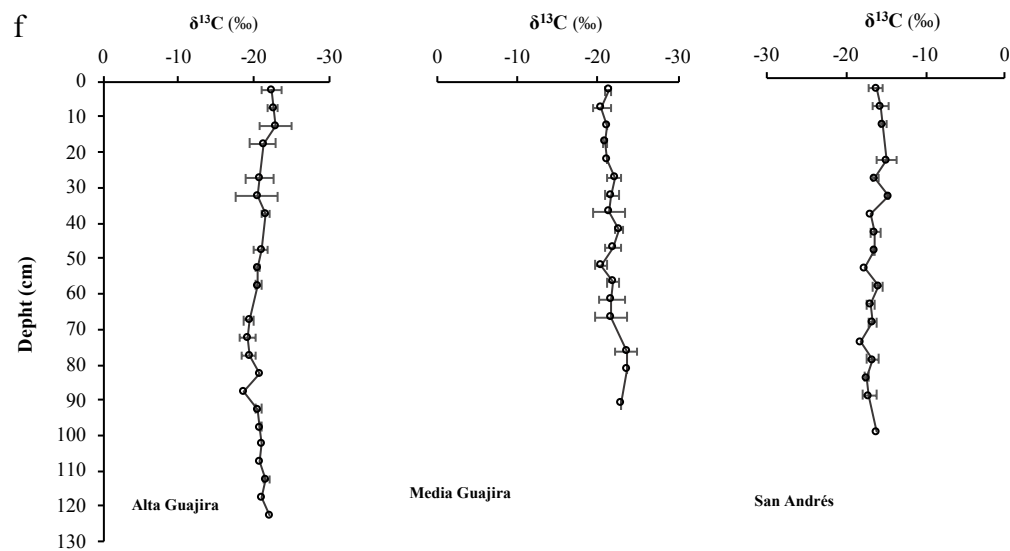
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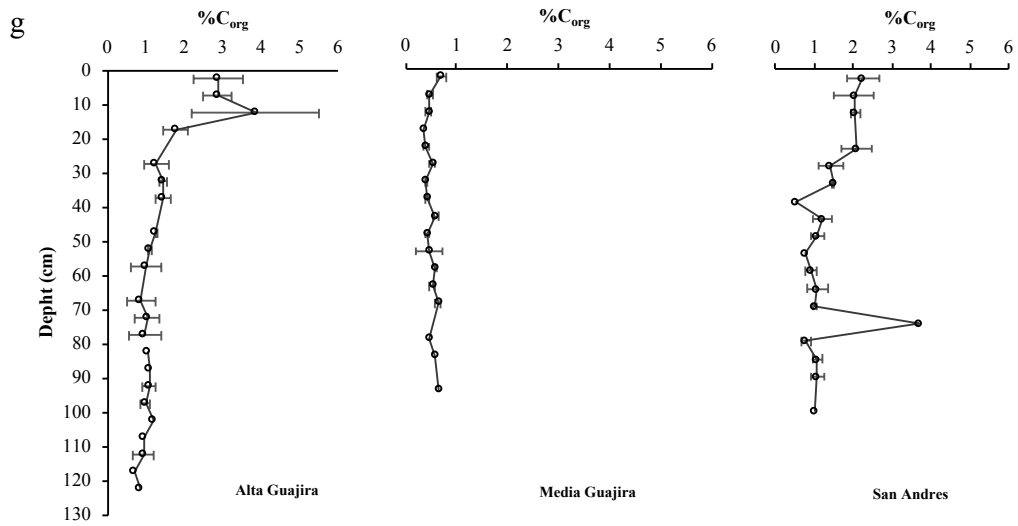




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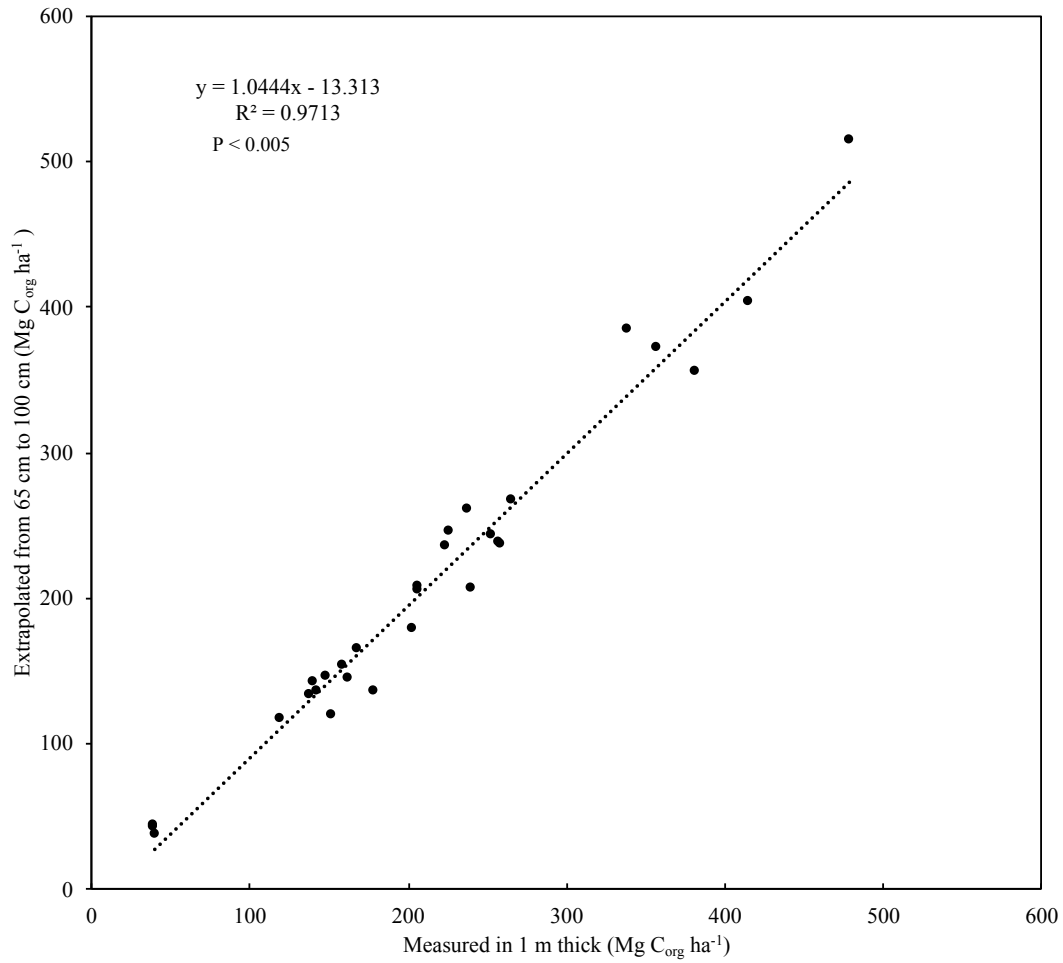


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25 **Supplementary Information Figure B.** Relationship between soil organic carbon stocks
26 measured at 1 m ($\text{Mg C}_{\text{org}} \text{ha}^{-1}$) and extrapolated from 0.65 m to 1 m from cores ≥ 1 m-thick.
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30 **Supplementary Information Table A.** Details of the seagrass cores sampled, including the % compression during coring operations.

31 Core length corrected for compression (cm decompressed).

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Core ID	Region	Location	Latitude	Longitude	Core length (cm comp.)	Core length (cm decomp.)	Compression (%)
SABHK1	San Andrés	Bahía Hooker	12° 33' 46.1" N	81° 42' 1.22" W	73	100	38
SABHK2			12° 33' 46.1" N	81° 42' 1.22" W	69	94	36
SABHK3			12° 33' 46.1" N	81° 42' 1.22" W	72	96	33
SACC1		Cotton Cay	12° 11' 50.5" N	72° 08' 56.7" W	63	87	38
SACC2			12° 11' 50.5" N	72° 08' 56.7" W	54	73	34
SACC3			12° 12' 10.88" N	72° 09' 7.27" W	48	65	39
SAMA1		Mar Azul	12° 12' 10.88" N	72° 09' 7.27" W	58	83	44
SAMA2			12° 12' 10.88" N	72° 09' 7.27" W	60	84	40
SAMA3			12° 33' 31.41" N	81° 42' 4.82" W	40	56	60
AGBH1	Alta Guajira	Bahía Hondita	12° 33' 31.41" N	81° 42' 4.82" W	66	93	41
AGBH2			12° 33' 31.41" N	81° 42' 4.82" W	60	85	51
AGBH3			11° 19' 3.53" N	74° 08' 1.87" W	95	124	30
AGBH4			11° 19' 14.44" N	74° 07' 35.41" W	90	127	19
AGHB5			11° 19' 14.44" N	74° 07' 35.41" W	96	136	21
AGBH6			12° 03' 51.7" N	72° 09' 27.0" W	86	114	33
AGBH7			11° 19' 3.53" N	74° 08' 1.87" W	58	82	52
AGBH8			12° 03' 51.7" N	72° 09' 27.0" W	50	71	59

AGBP1	Bahía Portete	12° 03' 51.7" N	72° 09' 27.0" W	40	65	61
AGBHP2		11° 56' 15.6" N	72° 12' 49.6" W	45	70	56
AGBHP3		11° 56' 15.6" N	72° 12' 49.6" W	48	73	53
AGBHP4		11° 56' 15.6" N	72° 12' 49.6" W	38	64	67
AGBHP5		11° 56' 14.24" N	72° 12' 50.84" W	41	66	61
AGCV1	Cabo de la Vela	11° 56' 14.24" N	72° 12' 50.84" W	71	94	33
AGCV2		11° 56' 14.24" N	72° 12' 50.84" W	51	70	36
AGCV3		11° 56' 08.5" N	72° 12' 52.6" W	30	45	51
AGCV4		11° 56' 08.5" N	72° 12' 52.6" W	46	65	40
AGCV5		11° 56' 08.5" N	72° 12' 52.6" W	38	61	61
MGCZ1	Media Guajira Carrizal	10° 23' 52" N	75° 32' 31" W	76	92	21
MGCZ2		10° 15' 53" N	75° 35' 32" W	67	83	24
MGCZ3		10° 15' 53" N	75° 35' 32" W	90	107	19
MGCZ4		10° 19' 12" N	75° 35' 17" W	47	69	48
MGCZ5		10° 15' 53" N	75° 35' 32" W	47	69	46
MGCZ6		10° 19' 12" N	75° 35' 17" W	46	68	47
MGCZ7		10° 19' 12" N	75° 35' 17" W	61	87	43
MGCZ8		10° 23' 52" N	75° 32' 31" W	65	84	30
MGCZ9		10° 23' 52" N	75° 32' 31" W	70	83	19
MGCZ10		10° 22' 46" N	75° 34' 22" W	48	72	50
MGCZ11		10° 22' 46" N	75° 34' 22" W	39	62	59
MGCZ12		10° 22' 46" N	75° 34' 22" W	40	62	55
MGMC1	Musichi	10° 21' 57" N	75° 32' 50" W	65	91	39
MGMC2		10° 21' 57" N	75° 32' 50" W	59	84	43
MGMC3		10° 21' 57" N	75° 32' 50" W	68	89	31

SMCH1	Tayrona	Bahía Chengue	12° 24' 56.9" N	71° 42' 45.1" W	52	76	46
SMCH2			12° 24' 56.9" N	71° 42' 45.1" W	62	83	34
SMCH3			12° 25' 04.8" N	71° 42' 28.9" W	92	103	12
SMCH4			12° 25' 04.8" N	71° 42' 28.9" W	90	97	8
CLV1	Cartagena	La Virgen	12° 25' 04.8" N	71° 42' 28.9" W	81	114	41
CLV2			12° 25' 45.1" N	71° 41' 37.6" W	67	95	41
CLV3			12° 25' 45.1" N	71° 41' 37.6" W	70	102	45
CTTB1		Tierra Bomba	12° 25' 45.1" N	71° 41' 37.6" W	91	117	28
CTTB2			12° 34' 31.52" N	81° 41' 38.09" W	120	156	30
CTTB3			12° 34' 31.52" N	81° 41' 38.09" W	109	133	22
CTPA1		Punta Arena	12° 34' 31.52" N	81° 41' 38.09" W	80	110	38
CTPA2			11° 44' 56.62" N	72° 35' 38.76" W	100	125	25
CTPA3			11° 44' 56.62" N	72° 35' 38.76" W	86	112	31
CTBC1		Bahia Cocon	11° 44' 56.62" N	72° 35' 38.76" W	79	109	38
CTBC2			12° 10' 30.12" N	71° 57' 37.83" W	76	86	13
CTBC3			12° 10' 30.12" N	71° 57' 37.83" W	108	108	0
CTBG1		Bocagrande	12° 10' 30.12" N	71° 57' 37.83" W	114	129	13
CTBG2			12° 09' 53.6" N	71° 58' 5.01" W	110	117	7
CTBG3			12° 09' 53.6" N	71° 58' 5.01" W	88	92	4

34 **Supplementary Information Table B.** Radiocarbon results of the soil organic carbon in seagrass cores sampled in the Colombian
 35 Caribbean.

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DirectAMS code	Core ID	Region	Location	Depth (cm decompressed)	Radiocarbon age	
					BP	1sigma error
D-AMS 031357	SABH1	San Andrés	Bahía Hooker	45	400	26
D-AMS 031358	SABH1	San Andrés	Bahía Hooker	66	414	27
D-AMS 031359	SABH1	San Andrés	Bahía Hooker	93	479	25
D-AMS 031360	SACC1	San Andrés	Cotton Cay	47	<i>Modern</i>	
D-AMS 031361	SACC1	San Andrés	Cotton Cay	59	81	26
D-AMS 031362	SACC1	San Andrés	Cotton Cay	76	401	24
D-AMS 031364	MGCZ10	Media Guajira	Carrizal	55	1304	27
D-AMS 031365	MGCZ10	Media Guajira	Carrizal	64	972	25
D-AMS 031366	MGCZ4	Media Guajira	Carrizal	48	87	26
D-AMS 031367	MGCZ4	Media Guajira	Carrizal	55	281	27
D-AMS 031368	MGCZ4	Media Guajira	Carrizal	63	315	24
D-AMS 031371	SAMA1	San Andrés	Mar Azul	79	517	31
D-AMS 031373	MGMC1	Media Guajira	Musichi	66	2184	40
D-AMS 031374	MGMC1	Media Guajira	Musichi	80	3017	32
D-AMS 031375	AGBH3	Alta Guajira	Bahía Hondita	42	1430	29
D-AMS 031376	AGBH3	Alta Guajira	Bahía Hondita	75	2333	32
D-AMS 031377	AGBH3	Alta Guajira	Bahía Hondita	114	2560	41

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38 **Supplementary Information Table C.** Mean (\pm SD) stable carbon isotopes ($\delta^{13}\text{C}$, (‰) in seagrass, mangrove, seston and *Halimeda*
 39 *tuna* (mean and SD) across the regions studied in the Colombian Caribbean.

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Region	Source	$\delta^{13}\text{C}$ (‰)	
		mean	SD
Alta Guajira	Seagrass	-10.7	1.1
	Mangrove	-29.0	0.1
	Seston	-30.6	0.5
Media Guajira	Seagrass	-9.1	0.5
	Seston	-27.8	3.7
San Andrés	Seagrass	-8.3	0.5
	Seston	-25.0	4.1
	<i>Halimeda tuna</i>	-17.0	0.1
Tayrona	Seagrass	-8.9	1.2
	Mangrove	-29.0	0.1
	Seston	-28.9	3.1
Cartagena Bay	Seagrass	-8.9	1.2
	Mangrove	-29.0	0.1
	Seston	-28.9	3.1

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