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CORRECTION
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Corrigendum: Global Patterns in Marine Sediment Carbon Stocks

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A Corrigendum on

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In the original article, there was a mistake in **Table 2** as published. There was an error in how we summed the sediment carbon stocks for the global ocean and each location (i.e., province, jurisdiction, ocean depth, and MPA status). The corrected **Table 2** appears below.

Several corrections have been made to the text of the article, to reflect the changes made to the data in **Table 2**, and the updated sections are as follows:

Abstract: "∼3117 (3006–3209) Pg C in the top 1 m" was changed to "2322 (2239–2391) Pg C in the top 1 m." The full corrected text is "Here we quantify global marine sedimentary C stocks at a 1-km resolution, and find that marine sediments store 2322 (2239–2391) Pg C in the top 1 m (nearly twice that of terrestrial soils). Sediments in abyss/basin zones account for 79% of the global marine sediment C stock, and 49% of that stock is within the 200-mile Exclusive Economic Zones of countries."

Results, paragraph 2: "We found that the global ocean stores 3117 Pg of C in the top 1 m (**Figure 6A**), with a 3006 to 3209 Pg C range across all pixels." was changed to "We found that the global ocean stores 2322 Pg of C in the top 1 m (**Figure 6A**), with a 2239 to 2391 Pg C range across all pixels."

Results, paragraph 3: "2240–2395 Pg C" was changed to "1777–1898 Pg C," "490–523 Pg C" was changed to "256–274 Pg C," "218–233 Pg" was changed to "164–175 Pg," "30–31.4 Pg" was changed to "23–24 Pg," "28–29.6 Pg" was changed to "19–20 Pg," "1606 (218–233, 95% CI)" was changed to "1132 (1092–1166, 95% CI)," "1512 (1480–1580)" was changed to "1190 (1147–1225)," "118 (114–122)" was changed to "94 (92–97)," and "57 (54–58)" was changed to "48 (47–50)."

The full corrected text is "Carbon stocks spatially varied across oceanic depths and across regions. Five-times as much C is stored in deep-sea sediments (water depths > 1000 m) compared to sediments underlying shallow seas (**Table 2**). Within the oceanic provinces, abyssal/basins store the most C (1777–1898 Pg C), followed by the continental shelf (256–274 Pg C), the continental slope (164–175 Pg), hadal zone (23–24 Pg), and other non-shelf coastal habitats (19–20 Pg). The amount of C stored in EEZs and the high seas were similar, with 1132 (1092–1166, 95% CI) Pg C stored in EEZs and 1190 (1147–1225) Pg C stored in the high seas. As of 2019, 94 (92–97) Pg C in the top 1 m of sediments is stored in MPA's, of which only 48 (47–50) Pg C is stored in highly protected MPAs (**Figures 6A,C** and **Table 2**)."

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TABLE 2 | Global extent, average (95% confidence intervals) carbon (C) stocks in the top 1 m, and proportion of the global marine sediment C stock in the top 1 m for different oceanic provinces, marine jurisdictions [Exclusive Economic Zones (EEZ)], ocean depths, marine protected areas (MPAs), including implemented highly and fully protected areas, and total marine sedimentary C stock for the global ocean.

	Area km^2	C stock (Mg km^2)	Total sediment C stocks (Pg)	Global proportion	# of cores
Oceanic Provinces					
Continental Shelf	14,250,873	18,666 (17,964–19,227)	266 (256–274)	11.5%	5450
Other Coastal	4,894,100	3,882 (3,882–4,087)	19 (19–20)	0.8%	856
Continental Slope	19,693,306	8,632 (8,328–8,886)	170 (164–175)	7.3%	2261
Abyss/Basin	306,595,886	6,014 (5,796–6,191)	1844 (1777–1898)	79.4%	2981
Hadal	3,437,928	6,690 (6,690–6,981)	23 (23–24)	1%	30
Jurisdictions					
EEZs	167,345,228	6,764 (6,525–6,968)	1132 (1092–1166)	48.8%	9610
High Seas	181,526,865	6,556 (6,319–6,748)	1190 (1147–1225)	51.2%	1968
Ocean depth					
Shallow sea (<1000 m)	31,687,886	11,361 (10,951–11,708)	360 (347–371)	15.5%	7692
Deep-sea (>1000 m)	317,184,207	6,186 (5,965–6,369)	1962 (1892–2020)	84.5%	3886
MPAs					
All MPAs	18,164,927	5,175 (5,065–5,340)	94 (92–97)	4%	835
Highly protected MPAs	8,498,959	5,648 (5,530–5,883)	48 (47–50)	2%	236
Total C stocks					
Global marine sediments	348,872,093	6,656 (6,418–6,854)	2322 (2239–2391)		11,578
Global terrestrial soil	125,800,000		1325		

The number of cores indicates the sample size for each category. Terrestrial soil stocks and land area estimates are from Köchy et al. (2015).

Discussion, paragraph 1: "∼3117 (3006–3209)" was changed to "2322 (2239–2391)," "most (75%)" was changed to "most (79%)," "with 2.3 times" was changed to "with 1.75 times," and "our estimate is ∼1.8 times to 6 times greater" was changed to "our estimate is 1.3 times to 4.7 times greater."

The full corrected text is "We estimate that the ocean is currently storing 2322 (2239–2391) Pg C in the top 1 m of sediments, with most (79%) of this C stored in abyssal/basin zones. This estimate makes the ocean the largest pool of sediment/soil C stocks in the world, with 1.75 times greater C stocks than the top 1 m of terrestrial soils (Köchy et al., 2015). Because our estimate does not include supratidal areas, our C stock estimate is likely conservative as it omits some supratidal marshes and mangroves, which are known to store large amounts of sediment C (Atwood et al., 2017; Macreadie et al., 2017; Osland et al., 2018). Past studies have estimated that marine surface sediments store between 87 Pg C (top 5 cm; Lee et al., 2019) and 147 Pg C (top 30 cm; Emerson and Hedges, 1988); if we extrapolate their results to a 1 m depth (assuming an equal distribution of C with depth), our estimate is 1.3 times to 4.7 times greater, respectively, than these previous calculations.

Discussion, paragraph 3: "∼80%" was changed to "84%." The full corrected text is "However, because of their extensive geographic areal coverage, deep-sea sediments accounted for 84% of the total marine sediment C stock."

Discussion, paragraph 5: "∼4% (∼118 Pg C)" was changed to "4% (94 Pg C)" and "∼2% (57 Pg C)" was changed to "2% (48 Pg C)." The full corrected text is "Currently, 4% (94 Pg C) of marine sediment C stocks occur in MPAs, and only 2% (48 Pg C) occur in highly protected MPAs where commercial extraction is prohibited, and recreational and subsistence extraction is minimal (i.e., no-take reserves)."

The authors apologize for this error and state that this does not change the article's major scientific conclusions in any way, nor did it affect the validity or fit of Random Forest regression model. The original article has been updated.

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