



## Corrigendum to “Recent inorganic carbon increase in a temperate estuary driven by water quality improvement and enhanced by droughts” published in Biogeosciences, 20, 4931–4947, 2023

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During submission the following error occurred. In the above paper, which assesses the amount of internal dissolved inorganic carbon (DIC) load in the Elbe Estuary that can account for the DIC export to the coast, we calculated a sum of the internal DIC load from May to August for zones 4 to 6 (Table S12 in the Supplement), which was incorrect. The average of the internal DIC load for zone 6 from May to August should have been used instead. In this corrigendum we have recalculated an average of the internal DIC load for zone 6 from May to August, and we compared this monthly average to an annual estimate. The correction changed the estimate of the internal DIC load for May to August from 6.4 Gmol C per month (in the original publication) to an internal DIC load of  $8.1 \pm 3.7$  Gmol C yr<sup>-1</sup> for zone 6. The internal DIC load for zone 6 was then compared to the annual DIC export. This recalculation increased the summer internal DIC load fraction by 2 % to 9 % of the annual DIC export to coastal waters, and this did not alter our conclusions about the internal DIC load contribution to the annual DIC export.

In the Supplement Table S12 the sum of the internal DIC load for zones 4 to 6 for each month should be removed (highlighted in italics). In Table S12 the average of the internal DIC load for each zone from May to August should be used (highlighted in bold) as shown on the next page.

In the paper on p. 4943 Sect. 4.2 the original text of “The total internal DIC load of 6.4 Gmol C per month for May to August between 1997 and 2020 (Table S12) represents 7 %–

20 % of the annual DIC export to coastal waters (Fig. 6)” should be replaced with “The internal DIC load for the lower estuary (zone 6) of  $8.1 \pm 3.7$  Gmol C yr<sup>-1</sup> based on May to August between 1997 and 2020 (Table S12) represents 9 %–26 % of the annual DIC export to coastal waters (Fig. 6).”

## Original Supplement Table S12:

**Table S12.** Mean ( $\pm$  standard deviation of the average for each zone between 1997 and 2020) POC load in zone 1 (z1) and internal DIC load in the mid to lower (z4–z6) estuary from 1997–2020 in  $\text{Gmol C month}^{-1}$ . August 2002, August 2010 and June–July 2013 were excluded as flood months. Data for May from 1997–2019.

		May	Jun	Jul	Aug
	POC z1	$0.6 \pm 0.29$	$0.4 \pm 0.17$	$0.4 \pm 0.19$	$0.3 \pm 0.16$
Internal	z4	$0.4 \pm 0.24$	$0.5 \pm 0.26$	$0.4 \pm 0.30$	$0.3 \pm 0.25$
DIC	z5	$0.7 \pm 0.28$	$0.7 \pm 0.30$	$0.6 \pm 0.30$	$0.4 \pm 0.25$
load	z6	$0.8 \pm 0.25$	$0.8 \pm 0.30$	$0.7 \pm 0.32$	$0.5 \pm 0.26$
<i>Sum (z4–z6)</i>		$1.78 \pm 0.25$	$1.92 \pm 0.28$	$1.60 \pm 0.30$	$1.10 \pm 0.25$

## Corrected Supplement Table S12:

**Table S12.** Mean ( $\pm$  standard deviation of the average for each zone between 1997 and 2020) POC load in zone 1 (z1) and internal DIC load in the mid to lower (z4–z6) estuary from 1997–2020 in  $\text{Gmol C month}^{-1}$ . August 2002, August 2010 and June–July 2013 were excluded as flood months. Data for May from 1997–2019.

		May	Jun	Jul	Aug	May–Aug
	POC z1	$0.6 \pm 0.29$	$0.4 \pm 0.17$	$0.4 \pm 0.19$	$0.3 \pm 0.16$	
Internal	z4	$0.4 \pm 0.24$	$0.5 \pm 0.26$	$0.4 \pm 0.30$	$0.3 \pm 0.25$	<b><math>0.4 \pm 0.3</math></b>
DIC	z5	$0.7 \pm 0.28$	$0.7 \pm 0.30$	$0.6 \pm 0.30$	$0.4 \pm 0.25$	<b><math>0.6 \pm 0.3</math></b>
load	z6	$0.8 \pm 0.25$	$0.8 \pm 0.30$	$0.7 \pm 0.32$	$0.5 \pm 0.26$	<b><math>0.7 \pm 0.3</math></b>