Editor Comments to the author:
Thank you for revising your manuscript. I am still unsatisfied with your justification for partitioning the alkalinity fluxes as you have. I had a look at Amann et al (2015) and it seems undersaturation of calcium carbonate is not a universal phenomenon in the Elbe. I also note Amman et al argue sulfate reduction is not likely to contribute to alkalinity production due to course sediments and an oxic water column. Without further data, however, I remain unconvinced by this argument. In an environment with high colloidal inputs and low salinities it seems highly likely that sulfate reduction and the formation of FeS will occur, which leads to alkalinity generation. Are there no areas of black sediment (indicating acid volatile sulfides) accumulation within the Port? In the absence of further information, I suggest you can only discuss likely sources qualitatively, rather than your current apportionment.

AC:
Dear Mr. Cook,
Thank you for your thoughts on the revised manuscript.
We understand your concerns and have decided to significantly tone down this discussion, as in fact our data set does not allow us to draw any substantiated conclusions here. For this reason, we prefer to make neither favorable nor unfavorable statements.
We changed the text to:
"This result can be supported by the studies of Kempe (1982) and Francescangeli et al. (2021), who report undersaturated calcite saturation states (Ω) in the upper estuary and at their most fresh water station in the middle estuary.
Our estimate should be considered an upper bound, since other anaerobic metabolic processes must provide the remaining at least 10 % of the generated TA we observed. However, our data set does not allow us to directly identify or even quantify any of these processes, nor does it allow us to exclude them. "

In this context please allow us to point to a factual error in the paper by Amann et al. (2015), namely their statement on page 205 on line 1 that supersaturation occurs if the omega is larger than zero. Obviously, the saturation state of omega indicates supersaturation with values larger than one.

Yours sincerely,
On behalf of all co-authors,
Mona Norbisrath