

## ***Interactive comment on “Geochemistry of the dissolved loads of rivers in Southeast Coastal Region, China: Anthropogenic impact on chemical weathering and carbon sequestration” by Wenjing Liu et al.***

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Response to EC1: Comments from Referees: The authors well responded to the reviewers and interactive comments and manuscript is in the good shape. However, I have few following queries:

1. How did you avoid sampling during tidal period - Please explain in detail about this. This question was asked by Referee however the response is not satisfactory.

Author's response:

C1

To avoid tidal effect on the river estuary samples, the sampling sites were selected carefully based on the following consideration. First, the sampling locations for the river low reach samples were chosen as far as possible from the tidal impacted area, normally further than 30 km. Second, we checked the local daily tidal time and conducted the sampling of river low reach during low tide period in the sampling day. Third, we also checked the salinity of the water by using salinometer (WS202, China) before sampling in the field. In addition, we double checked data before drafting the manuscript to make sure the river sample are not contaminated by seawater (e.g. all the water chemistry features of the samples were within the normal range of fresh water). These were noted in the Sampling and analytical method section in the revised manuscript (Line 159-165 in the supplement of the response to EC1)

2. The field trip was conducted during high-flow period hence the discussion represents to high-flow period only and this must be explicitly mentioned in the text as well in the title. ~70% of annual precipitation occurs during high-flow period, and high weathering expected, the processes during dry period (low-flow) is different. (This issue was also raised by RC 1 - please explicitly mention about this).

Author's response:

Yes, the processes in low-flow season might be different in some extent due to the hydrologic and temperature effect. Thanks for your kind reminder. We have explicit this point in the title and in the text in the revised version (Line 468-476 in the supplement of the response to EC1).

3. How you could titrate only HCO<sub>3</sub><sup>-</sup>? Is it not TA and then calculated HCO<sub>3</sub><sup>-</sup>? It is not clear.

Author's response:

Yes, the content of HCO<sub>3</sub><sup>-</sup> was calculated. Alkalinity was determined by phenolphthalein and methyl orange end point titration with dilute HCl. The HCl consumption

C2

volumes for phenolphthalein and methyl orange end point titration were used to calculate the  $\text{CO}_3^{2-}$  and  $\text{HCO}_3^-$ . Actually, there were little phenolphthalein alkalinity for all the samples (i.e. the HCl consumption volume for phenolphthalein end point titration were almost zero). The method was given in the Sampling and analytical method section in the revised version (Line 176-178 in the supplement of the response to EC1).

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2018-109/bg-2018-109-AC11-supplement.pdf>

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Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2018-109>, 2018.