

Dear Dr Ji-Hyung Park

We revised the manuscript following your suggestions, in particular:

- Lines 35-36, 41 (tracked-changes version): It would be more helpful for readers to understand how you reached these emission estimates, if you provide your selected literature value of k, probably at the first place you mention CO₂ emission estimation (L 35).

We thank you for pointing this out and added $k = 4.46 \text{ m d}^{-1}$ for clarity.

- Lines 195-197: Please refer the cited and other relevant papers (e.g., Wanninkhof et al.; Lauwerwald et al.) to correct “Cwater - Cair” to “pCO₂water – pCO₂air”.

We agree and added a relevant sentence together with necessary reference (Lauerwald et al., 2015).

- Line 429: suggest “that” it is; Also clarify what is “it” here?

“...others suggest that DOM photo- and bio-degradation is low..”; revised for clarity.

- Lines 526 & other “needle-lead deciduous trees”: Do you mean “needle-leaf deciduous trees”? **“Needle-leaf”, corrected. Thanks for catching this; we are sorry for this misprint.**

- Table 3 “RPearson”: Please remove a number superimposed on the title.

Revised accordingly

- Fig. 1: Please add the title to the vertical axis of the lower panel plot.

This is mean multi-annual monthly discharge (Q, $\text{m}^3 \text{ s}^{-1}$), added as necessary.

We thank you for handling our paper

Sincerely

Oleg S Pokrovsky