

Interactive comment on “Carbon dioxide emissions from the flat bottom and shallow Nam Theun 2 Reservoir: drawdown area as a neglected pathway to the atmosphere” by Chandrashekhhar Deshmukh et al.

Anonymous Referee #1

Received and published: 2 November 2017

The manuscript presented results of a study carried out on carbon dioxide emissions from the Nam Theun 2 Reservoir in the Mekong River watershed in Laos. The major focus has been on the influence of Dam and commissioning of a power plant. Their study clearly shows the impact of human interference on the natural flow systems and processes on carbon dioxide system and its emissions. The authors deserve compliments for their meticulous planning of their experiments and strategic location of sampling sites. Results are presented and discussed adequately and I do not have any major comments. The following three minor points may help the authors in contributing

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to the clarity.

1. Please define ‘drawdown area’ in introduction. 2. Caption for Figure 5 needs a revision and 3. The influence of freshwater discharge on distributions of carbon parameters in the studied hydrological regime has not been explicitly presented. A strategy showing the river discharge variations in relation to changes in carbon dioxide properties in reservoir and drawdown area might help explain “We confirm the importance of the flooded stock of organic matter as a source of C fuelling emissions and we show that the drawdown area contributes, depending on the year, from 50% to 75% of total annual gross emissions in this flat and shallow reservoir (lines 47-50).”

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2017-380>, 2017.

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