

Interactive comment on “Carbon cycling at the aquatic-terrestrial interface is linked to parafluvial hyporheic zone inundation history” by Amy E. Goldman et al.

Anonymous Referee #2

Received and published: 25 May 2017

I find the article generally interesting. It is well written, includes extensive literature documentation, and pays ample attention to describe the practical and general implications of this study which is undertaken in a rather unusual, dam-controlled river environment.

Coming from the geochemistry side of biogeochemistry, my comments focus on the physico/chemical part of the study. There are two topics I have problems with. The first is temperature, or rather the lack of its consideration (only “room temperature” is mentioned twice on page 4). Are the results temperature-independent? If so, the authors should explain it. If the results are temperature dependent, the authors will have to discuss the implications of it, and preferably give some more accurate temperature conditions during the experiments.

C1

The second problem I have with the paper is that on page 5, lines 5-7, the authors describe in detail how measurements of cations and anions are conducted. However, none of those parameters, with the exception of nitrate or nitrite, is ever mentioned in the paper – so, why are the measurements listed? If the chemistry plays no role, it should be mentioned; if the authors discuss it in a companion paper, it should be mentioned; if the data were not used at all, their measurement methods should not be discussed in the methods section.

As far as figures are concerned, I would suggest two changes. In Figure 1 the colors are described to be misleading, so why show them? The photos should be converted to grey scale. Figure 6 could be deleted, it is very simplistic and the importance of changing biology is extensively described, with much more detail, in the text of the publication.

Interactive comment on Biogeosciences Discuss., doi:10.5194/bg-2017-28, 2017.

C2