

Dear Prof. Pan

Two external experts evaluated your reviewed your manuscript. Both reviewers place high rates of scientific significance (good, excellent). Both reviewers indicate that this work fits well with the scope of *Biogeosciences*. However, the quality of presentation is poor and Both reviewers indicate that comprehensive revisions are needed and it might be time-consuming.

Both reviewers argue that a conceptual framework should be provided to develop testable research questions and to guide the discussion, and the writings are repetitive. Both reviewers particularly argue that there are plenty of vague concept which are unfounded. For example, the term of physically protected organic carbon. It appears to me there is no solid criteria to define “physically protected organic carbon”. In addition, some of conclusions as pointed out by reviewers are self-contrasting. For example, the authors state that “This study further supported our previous finding for bulk soils that long term rice cultivation led to accumulation of SOC and promoted soil biological activities through physical protection of labile carbon in line with enhanced soil aggregation. And labile organic carbons accumulated in macro-aggregates helped enhancing microbial C use efficiency and improving potentially ecosystem functioning”. Labile carbon is often favored by microorganisms when compared to recalcitrant carbon. Therefore, it seems plausible that less labile carbon will lead to lower soil biological activities. Had the labile carbon been physically protected, microbial activities would have been lower than expected?

The reviews also suggest the interested *Biogeosciences* reader would benefit from a streamlined presentation.

I feel that these criticisms are sufficiently important as to preclude publication of your work at its present form in *Biogeosciences*. However, both reviewers indeed suggest a re-submission after major revisions as you can see in the comments provided.

Thus, I am not able to accept the current submission for publication. The reviewers make excellent suggestions and I encourage you to consider their comments for improving your work and the manuscript.

If you elect to submit a new manuscript, please include a letter that states the original manuscript number and your disposition to each of the comments of the reviewers and editor. Please note that simple revisions will not remedy the issues raised and substantial improvements are required. In addition, I would like to have your attention that the new manuscript would require a new review (i.e., the editor would not be able to assess the resubmission without engaging reviewers).

I am sorry your manuscript was not acceptable for publication. Your interest to publish in *Biogeosciences* is very much appreciated, and I hope that you will consider submitting additional manuscripts to the journal in the future.

Yours Sincerely

Zhongjun Jia