

**A Summary of Revisions and Responses on “Optimizing the Implementation Orders of Watershed Best Management Practices with Time-varying Effectiveness under Stepwise Investment”
(Paper #2022WR032986RR)**

With regards to comments from Editor:

There still need to be some grammatical corrections. To provide just a few examples:

- The words "implementation orders" in the title and key points are ambiguous*
- The phrase "demonstrated BMP optimization approach" lacks an article (definite or indefinite)*
- The plain language summary does not explain what a best management practice is. The plain language summary will not be intelligible to a lay person*

The manuscript needs to be carefully edited to improve it's English.

We have carefully considered the grammatical issues mentioned by the editor and revised them accordingly. This study assigned each BMP configured on spatial units in the BMP scenario under interest to be with a specific implementation time in an optimization way. Thus, the BMP scenario in which BMPs have specific implementation orders can be referred to as an “implementation plan.” We revised the “implementation orders” to “implementation plan” in the title and key points to minimize misunderstanding. We revised the manuscript according to such definitions.

We revised the third key point: “The proposed BMP optimization approach was demonstrated in an agricultural watershed case study using four erosion control BMPs.”

We added a brief explanation of best management practice (BMP) at the beginning of the plain language summary: “Best management practices (BMPs) are a series of structural and nonstructural management practices implemented at different spatial scales in a watershed (e.g., sites, agricultural fields, roads, and streambanks) to reduce the negative environmental impacts of stormwater, soil erosion, nonpoint source pollution, etc.”

According to the editor’s comment, we have chosen the American Journal Experts (AJE), the partner of AGU, to provide a thorough English language editing service. The certificate can be verified on the AJE website using the verification code 3DA1-606D-6DD5-659B-6FC1. We hope that the language of the revised manuscript is of a higher standard and acceptable to Water Resources Research.

In addition, the ten dashes round the South China Sea in Figure 5 should be removed, as they are not necessary for the map and are not consistent with the 2016 tribunal decision constituted under the United Nations Convention on the Law of the Sea (UNCLOS).

Although we appreciated the work and other comments from the editor, we cannot agree with the editor on this point. It is regrettable that this comment is political and beyond the science of this study. Sorry, we cannot remove the dashed lines in the figure. Here are some reasons:

(1) “The national boundaries of the People’s Republic of China shall be drawn according to the standard samples for the drawing of national boundaries of China.” regulated by “The Regulation on Map Management of China, issued on 11 November 2015, and came into force on 1 January 2016 (see <http://www.lawinfochina.com/display.aspx?id=21392&lib=law>). As Chinese scholars, we have an obligation to present the national boundaries of China in a complete manner.

(2) As a leading publisher in the scientific community, AGU maintains the highest quality standards and promotes scientific integrity, professional ethics, diversity, and inclusion in scholarly publishing. AGU generally follows the standards of the Committee on Publication Ethics (COPE). We believe that the reviewers and editors will follow these guidelines to “provide unbiased consideration of our manuscript without regard to ethnic origin, race, religion, citizenship, language, political or other opinions, gender, gender identity, sexual orientation, disability, appearance, age or economic class seniority, or institutional affiliation of the author(s).”
Sources:

a) COPE ethical guidelines for peer reviewers:

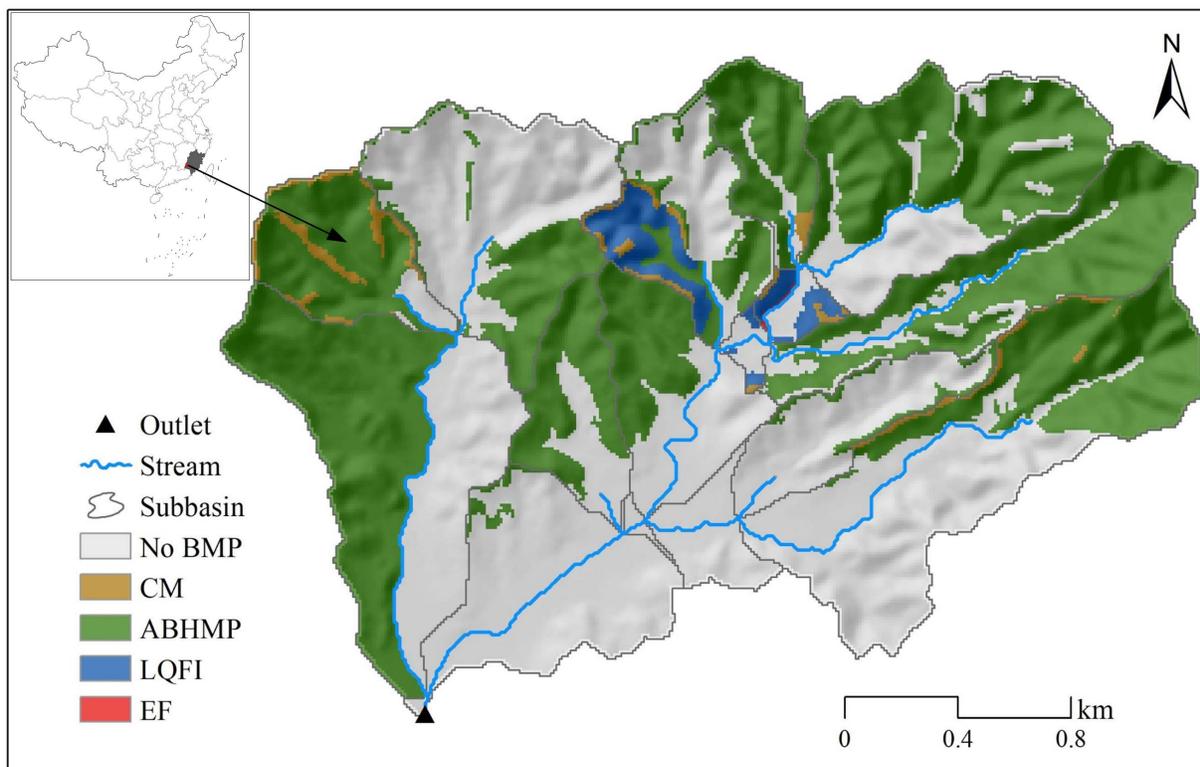
http://publicationethics.org/files/Ethical_guidelines_for_peer_reviewers_0.pdf

b) AGU Scientific Integrity and Professional Ethics: https://www.agu.org/-/media/Files/Learn-About-AGU/AGU_Scientific_Integrity_and_Professional_Ethics_Policy_document.pdf

(3) We briefly searched recent studies involving China published in Water Resources Research and found they included the dashed lines around the South China Sea. For example, Figure 1 in Huang et al. (2023, <https://doi.org/10.1029/2022WR032091>), Figure 1 in Zhang et al. (2023, <https://doi.org/10.1029/2022WR033382>), and Lu et al. (2023, <https://doi.org/10.1029/2022WR033980>). Therefore, we believe that the study area map with the complete boundaries of China is acceptable in Water Resources Research.

(4) To the best of our knowledge, the Ministry of Foreign Affairs of the People’s Republic of China solemnly declared that the award rendered on 12 July 2016 by the Arbitral Tribunal in the South China Sea arbitration established at the unilateral request of the Republic of the Philippines is null and void and has no binding force. China neither accepts nor recognizes it. Please refers to the “*Statement of the Ministry of Foreign Affairs of the People’s Republic of China on the Award of 12 July 2016 of the Arbitral Tribunal in the South China Sea Arbitration Established at the Request of the Republic of the Philippines*” via https://www.fmprc.gov.cn/nanhai/eng/snhwtlcwj_1/201607/t20160712_8527294.htm. However, we believe the submission-reviewing system of WRR is not an appropriate place for discussing personal political opinions or individual national/international law issues. Please, let’s focus on science here.

To condense the layout of the manuscript, we integrated Figure 6 “Spatial distribution of the fundamental spatial scenario” in the former manuscript into Figure 5 “Study area map” in current manuscript.



We hope the explanation and revision can be acceptable to the Editor. We hope that our rejection of the second comment will not become the reason for a potential rejection decision on our revised manuscript possibly made by the journal.