**Response to Reviewer Comments**  
Title: Reservoir Capacity Analysis for Flood Mitigation in the Upper Kuranji Watershed  
Corresponding Author: Nofra Masdaf  
Date: 01 June 2025

**Reviewer 1 :**

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| **No.** | **Reviewer’s Comment** | **Author’s Response** | **Changes in Manuscript** |
| 1 | The title is descriptive but could be more concise. | The title has been revised to "Reservoir Capacity Analysis for Flood Mitigation in the Upper Kuranji Watershed" to be more concise and focused. | Title page |
| 2 | References to figures (e.g., Fig. 1, Fig. 2) lack accompanying descriptions or captions. | All figures have been supplemented with informative captions and descriptions according to journal standards. | All figures in the manuscript |
| 3 | The source for Fig. 2 is mentioned as "Source: " without details. | The source for Fig. 2 has been clarified and completed following the journal’s referencing format. | Caption of Fig. 2 |
| 4 | Methodology section needs clearer transitions between subsections. | Transitions between methodology subsections have been improved to enhance the flow of discussion. | Chapter 2, entire methodology section |
| 5 | Equations are referenced (e.g., (1), (2)) but not explicitly shown. | All equations are now explicitly displayed with consistent numbering. | Chapter 2, methodology section |
| 6 | The rationale for preferring Gumbel and Log-Pearson Type III distributions is weak. | Additional explanations about the advantages of these distributions and validation using Chi-Square and Kolmogorov-Smirnov tests have been added. | Chapter 2, probability distribution methods |
| 7 | Table 1 lacks explanation of how coefficients were determined. | An explanation of the origin and basis for selecting runoff coefficients in Table 1 has been included. | Table 1 |
| 8 | Reservoir filling time analysis lacks practical discussion. | Additional discussion on the significance of the filling time (39.31 seconds) in relation to flood control functions has been inserted. | Conclusion |
| 9 | The references section is incomplete. | The reference list has been reviewed, completed, and formatted according to journal guidelines. | References section |
| 10 | Cite more relevant and recent articles. | Two recent references (2023–2024) from CEE journals have been added and incorporated into the manuscript. | References section and manuscript content |
| 11 | Language needs minor grammatical editing. | The manuscript has been edited for clarity and grammar using Grammarly and manual proofreading. | Entire manuscript |

**Reviewer 2 :**

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| **No.** | **Reviewer’s Comment** | **Author’s Response** | **Changes in Manuscript** |
| 1 | Minor revision needed. | The manuscript has been thoroughly reviewed and revised according to the suggestions from Reviewers 1 and 3. No objections. | Minor revisions throughout the manuscript |

**Reviewer 3 :**

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| **No.** | **Reviewer’s Comment** | **Author’s Response** | **Changes in Manuscript** |
| 1 | Figure titles should conform to journal format (e.g., "Fig. 1: Title"). | All figure titles have been adjusted to follow the journal’s required format, using "Fig. X: Title". | All figures in the manuscript |
| 2 | All symbols in equations must be defined at first appearance. | All mathematical symbols have been clearly defined at their first appearance in the manuscript. | Chapter 2 – Research Methodology |
| 3 | Symbols and units in tables should be specified. | Symbols and units have been added or corrected in all tables to meet journal standards. | All tables in the manuscript |
| 4 | Units in graphs should use square brackets [ ] not parentheses ( ). | All graphs have been corrected to use units in square brackets [ ] according to journal guidelines. | Chapter 4, graphs |
| 5 | References should follow journal style. | The reference format has been adjusted to comply with the journal’s guidelines. | References |
| 6 | The number of references is relatively low. | The number of references has been increased, including the addition of two recent references from CEE journals (2023–2024). | References |

**Review Results:**

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| **No.** | **About** | **Reviewer’s Comment** | **Response** |
| 1 | Title | Is the paper about the design of reservoir capacity? It should be mentioned in the title. | Yes, the main focus of this article is on the planning of reservoir capacity for flood control in the Upper Kuranji watershed. The title has been revised accordingly to better reflect this focus. |
| 2 | Abstract | The objective of this study is to analyze the hydrological characteristics in the upstream area of the Kuranji River watershed to plan the reservoir capacity as a flood control effort. Are those words suitable? | Thank you for the suggestion. The sentence is fundamentally sound, but it has been refined to be more concise and formal: “The objective of this study is to assess the hydrological behavior of the upper Kuranji River watershed to inform reservoir capacity planning for effective flood mitigation.” |
| 3 | Introduction | Urban catchment areas such as the Kuranji River in Padang City, West Sumatra, Indonesia, continue to experience land use changes. Is it correct? | Yes, this statement is accurate and contextually appropriate. The manuscript includes a well-founded discussion supported by historical data that demonstrates continuous land use changes in the Kuranji watershed. |
| 4a | Research Methods | For every equation: there is no explanation of the symbols. | All equations and their corresponding symbols have been added and clearly explained in the latest revised version of the manuscript. |
| 4b | Research Methods | Design flood discharge (Subchapter 2.4): How to determine the most suitable runoff coefficient (C) in the calculation? | Thank you for your valuable feedback. I have added a detailed explanation in Subchapter 2.4 regarding the selection of the most appropriate runoff coefficient (C) based on land cover conditions and soil types in the Upper Kuranji River watershed. This includes the use of a value of 0.70 for residential areas with paved surfaces, reflecting observed local conditions. |