Review of: "Exploring the Impact of Future Land Uses on Flood Risks and Ecosystem Services, With Limited Data: Coupling a Cellular Automata Markov (CAM) Model, With Hydraulic and Spatial Valuation Models"

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The author/s tried to explore the impact of future land uses on flood risks and Ecosystem Services in the case of Indiana, USA. However, they need to address the following specific comments and questions before publication.

#1 Introduction: The introduction section is poorly written. It contains very long sentences separated by commas. E.g., *"........The field is fast developing, and more complex methodologies occur, such as combinations of CAM and Geographic Information Systems (GIS) with Remote Sensing observations (Islam and Ahmed, 2012), machine learning techniques (Xing et al., 2020; Zambrano-Asanza et al., 2023), and Multi-Criteria Analysis techniques (Addae and Dragićević, 2022), for improved prediction accuracies and/or the consideration of more factors in the analyses. The validation of the projections is performed statistically, comparing the historic data with the predicted ones, for the same year(s), and the most commonly used measure is the Kappa statistics, assessing the accuracy of the projections (Saputra and Lee, 2019; Liu et al., 2021). There have been several CAM modelling applications, for urbanization projections (Ulloa-Espíndola and Martín-Fernández, 2021; Mansour et al., 2020), for the evaluation of different development scenarios (Han et al., 2015), agriculture and biodiversity management (Halmy et al., 2015), the impact of climatic parameters (Tariq and Shu, 2020; Al Kafy et al.,2021), etc. Moreover, future land uses can be necessary for a variety of other analyses, such as soil and hydrological assessments (Anard et al., 2018; Dai et al., 2023), wetland management (Ansari and Golabi, 2019; Alamanos and Papaioannou, 2020), urban and rural development (Agustina et al., 2022; Alamanos et al., 2022a; 2022b), flood risk assessments (Roy et al., 2020; Papaioannou et al., 2023), ecological assessments (Qin and Fu, 2019), optimal agricultural management (Garcia and Alamanos 2022; 2023), management of transboundary environmental and economic assets (Englezos et al., 2023; Mendoza-Poce et al., 2021), and many more."*

A good structure would be a short overview of why and how unsustainable land use and urbanization endanger the environment and ecosystem services globally. Then introduce critical processes in America, and more specifically in the USA. Then a little mention of why the Cedar Creek Watershed in Indiana is a representative example for the analyses. Then the objective of the study and the key research questions.

#2 STUDY AREA: The author/s included land use maps under the study area description. Instead, it would be nice if they included the study area map and moved the land use maps under the datasets and sources sub-headings.

#3METHODOLOGY: The author/s simulate the land use scenarios for the 2026-2051 periods considering the historical land use transitions following the CAM modeling approach. However, they didn't mention which specific GIS software they employed. There are various freely available GIS software models, including but not limited to IDIRISI and TerrSet Land Change Modeler.

#4Figure 2: Figure 2 is blurry, and the legends are not properly formatted.

#5 The author/s validated the accuracy of the predicted land use following various accuracy assessment metrics. However, the procedure lacks detail, and they didn't mention how and where reference data was collected.

#6 Result and Discussion (Figure 3): Unfortunately, I didn't see the clear differences between land use maps (2026-2051) as well as between 2006-2016. I recommend using distinct colors for each land use class so that the readers can easily see the patterns of change. A cross-tabulation matrix is also important to easily show the area of transition and persistence.

#7 Conclusion: The conclusion section of the manuscript is poorly written. It needs to be addressed scientifically based on clear deductions observed from research findings. Revamp this section and suggest a policy based on research results.

#8 What are the limitations of this study? The author/s needs to include the limitations of the study in a separate section.