

Review of: "Flood Prediction Using Artificial Neural Networks: A Case Study in Temerloh, Pahang"

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Potential competing interests: No potential competing interests to declare.

The paper sets a clear context by highlighting the significance of flood prediction, especially in regions prone to flooding like Temerloh, Pahang, Malaysia. It effectively justifies the need for machine learning techniques in flood prediction due to the recurring nature of floods in the region.

The paper outlines a systematic approach towards flood prediction, covering data collection, preprocessing, model development, and evaluation. However, it lacks in-depth discussion on the selection criteria for the machine learning model (ANN) and why it was chosen over other models. Additionally, while data preprocessing steps are mentioned, details on specific techniques used could enhance reproducibility and clarity.

The description of neural network architecture and model training process is well-presented, offering insights into how the ANN is constructed and trained. However, the rationale behind the chosen architecture parameters (e.g., number of hidden layers, neurons per layer) is not thoroughly discussed, leaving readers wondering about the optimization rationale.

The results section provides comprehensive insights into model performance metrics such as accuracy, ROC curve, MSE, RMSE, R2 value, and F1 score. However, the interpretation of results lacks depth, particularly regarding the practical implications of model performance and its potential for real-world flood prediction applications. Additionally, the paper could have included a comparison with existing flood prediction methods to highlight the novelty and effectiveness of the proposed approach.

The inclusion of a Flood Monitoring Dashboard is a notable contribution, enhancing data visualization and accessibility for stakeholders. However, the paper could provide more details on the specific functionalities and features of the dashboard, as well as user feedback or usability testing results to validate its effectiveness.

The conclusion effectively summarizes key findings and contributions of the research. However, the recommendations for future research lack specificity and actionable steps. Providing more concrete suggestions, such as specific areas for expanding the study or methodologies for addressing identified limitations, would enhance the practical value of the paper.