

Review Form 3

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_129169
Title of the Manuscript:	GROUNDWATER QUALITY ASSESSMENT AND MODELING USING WATER QUALITY INDEX AND MATHEMATICAL MODELS: CASE STUDY OF BAM PROVINCE (BURKINA FASO)
Type of the Article	Research Paper

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript addresses a critical issue in water resource management by evaluating groundwater quality in Bam Province using both Water Quality Index (WQI) and predictive models. The integration of Artificial Neural Networks (ANN) and Multiple Linear Regression (MLR) to predict WQI values enhances the understanding of groundwater quality modeling. The findings provide actionable insights for sustainable water resource management in regions prone to water quality challenges, contributing significantly to the scientific and policy-making communities.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title accurately reflects the content and objectives of the study. However, consider simplifying it to "Groundwater Quality Assessment and Modeling Using WQI and ANN: A Case Study in Bam Province, Burkina Faso" for improved readability.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is comprehensive but could benefit from emphasizing the implications of the findings for water resource management. Adding a brief mention of the challenges in modeling due to geological heterogeneity would also enhance clarity.	
Is the manuscript scientifically, correct? Please write here.	The manuscript is scientifically robust and technically sound. The methods used for WQI calculation and predictive modeling are appropriate and validated. However, consider providing more details on the limitations of ANN and MLR models in the discussion section to balance the results.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references are recent and relevant. However, including more local studies on groundwater quality in Burkina Faso or neighboring Sahelian regions could further contextualize the study.	
Is the language/English quality of the article suitable for scholarly communications?	The language is generally suitable for scholarly communication. Some minor grammatical adjustments, such as improving sentence flow in the introduction and methodology sections, are recommended for better readability.	
<u>Optional/General</u> comments	Paper looks robust and has potential to be published	

PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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