Review Form 1.6

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_90775**
Title of the Manuscript:	**Delineation and mapping of groundwater quality in coastal blocks of Tiruvallur district of Tamil Nadu using GIS**
Type of the Article	**Original Research Article**

General guideline for 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 guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(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)*
Compulsory REVISION comments	The importance of GIS and geospatial analysis in groundwater investigations cannot be over emphasized. By conducting research to evaluate the quality of groundwater in coastal blocks in Tamil Nadu's Tiruvallur district, the author has completed important work. The author's research in Minjur, Puzhal, and Gummidipoondi focused on the physicochemical characteristics of the groundwater quality of the area and geospatial modeling. Due to the enormous levels of garbage that are dumped into water bodies and land in the metropolis, which is densely inhabited, and the subsequent contamination of other water sources, groundwater is the city's main source of drinking water. Leaching, however, allows solid waste from residential areas and waste effluent from industrial treatment facilities to enter groundwater. Therefore, it is important, groundwater quality needs to be periodically checked. In order to analyze and manage water resources and create groundwater exploration plans, it is helpful to integrate spatial analysis, GIS, traditional fieldwork, and models. The physicochemical examination of groundwater quality has been adequately done by the author, but the use of GIS in groundwater modeling is not extensively covered. The work has undergone a rigorous review, and the issues listed below should be fixed: 1. The abstract has to be revised to include the objectives, methodology, geometric coordinates, local geology, and results of the study. 2. The work needs to have its many grammar mistakes carefully fixed and edited. 3. The manuscript has some reporting, but the sources are not cited; this needs to be fixed. Please review my remarks on the manuscript. 4. The word fractured should be revised because the word "fractured" was not utilized properly as highlighted in the comment section of the manuscript. When fractures act as the main channels for groundwater flow and contribute enough permeability to transmit water in useful quantities, fractured geologic formations are referred to be "fractured rock aquifers." The phrase "usable quantity" is arbitrary and may cover a spectrum of discharge rates necessary for municipal, industrial, household, and agricultural purposes. Worldwide, fractured rock aquifers are common, and many communities depend on them as their main source of potable water. 5. Further examination of the physicochemical parameters is necessary to determine concentration connection with regard to groundwater sites. The study area can be applied successfully and with a degree of reasonable certainty using the linear regression equations for estimating the concentration of various factors based on electrical conductivity. 6. A brief discussion of the local geology is necessary. 7. The Geology map of the area should be included in the manuscript. 8. There should be a brief discussion of the local hydrogeology of the region. The hydrogeological mapping that was carried out should be discussed. 9. The manuscript should include a topographical map of the area to illustrate the various sites and geographical features. 10. Figures 1 to 3 should be explained together with the GIS methodology that was used to create them. The methodology should be highlighted; this will cover both primary and secondary data, such as topographic maps, satellite images, digital image processing, thematic map creation, raster maps, the generated layers utilized to create suitability maps, weight evaluation, AHP, and overlay analysis performed, these should be included. 11. Use different figures to illustrate the PH, EC, SAR, and RSC parameters, and summarize your findings for each figure, for figures 1 through 3, this should be done. Some model outputs are not bold, and the icon representations are unclear.	
Minor REVISION comments		
Optional/General comments	The manuscript is accepted for publication, but with major revision.	

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PART 2:

	Reviewer's comment	**Author's comment** *(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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

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