

Review of: "Groundwater Potential Zone Assessment Using Remote Sensing, Geographical Information System (GIS), and Analytical Hierarchy Process (AHP) Techniques in Fogera Woreda, South Gondar Zone, Ethiopia"

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Potential competing interests: No potential competing interests to declare.

The authors have conducted a study on groundwater potential modeling using GIS, RS, and AHP. In order to revise the manuscript and publish it, the following points are proposed:

- Where is the application of RS in your studies? It has not been used significantly. There is no information about it in the methodology, results, and discussion. It is better to remove it from the title.
- Write specialized words such as precipitation and land height, etc., completely and correctly.
- There are many spelling mistakes. Capitalize the first letter of the sentences.
- Increase the research background and use the references of recent years.
- For each of the factors or digital layers, the exact method of data extraction and their accuracy and correctness must be presented and checked.
- Is the geophysical data from the aquifer not available to you to validate the results?
- Why didn't you check and use the data or layers of hydrodynamic properties (T, K, H) of the aquifer? They are more important than data such as soil texture and...
- The groundwater depth and the amount of water table drawdown or the recovery rate of the wells (in the alluvial aquifer) are effective for validating the results.
- Geological map? Give the lithology and specify the type of aquifer.
- Figure 4? What does "Fine" mean? This is the soil texture map.
- Drainage density map? The unit of kilometers is in square kilometers. Bring the location and density of streams.
- Are the spatial changes of annual precipitation very limited?
- In general, the captions are in inappropriate forms with typographical and specialized errors. Correct it.
- Figure 10: As a map, it is inappropriate and of bad quality.

- Figure 12: Remove the decimal point from the height number.

- Discussion? It is weak. Authors should analyze the strengths and weaknesses of the methodology and the results. Compare your results with the work of others. Check and analyze the certainty or uncertainty and the accuracy of the results?

- Conclusion section? What is the overall achievement of your studies? These classes of groundwater potential (%) in your final map are not definite and reliable figures. The main question? You used a number of wells and their data for validation. Their number is limited. How is the border or zone of classes validated? How to get your results? You use other data such as water table depth, water table drawdown, piezometric lines, and geophysical data for validation.

- To revise the manuscript and explain the mentioned comments, such as how to present maps, correct captions, water depth data, aquifer hydrodynamic data, etc., the following references are suggested:

V Gholami, H Sahour (2022) [Prediction of groundwater drawdown using artificial neural networks](#) Environmental Science and Pollution Research 29 (22), 33544-33557

V Gholami, MJ Booij (2022) [Use of machine learning and geographical information system to predict nitrate concentration in an unconfined aquifer in Iran](#), Journal of Cleaner Production 360, 131847

V Gholami, MR Khaleghi, E Taghvaye Salimi (2020) [Groundwater quality modeling using self-organizing map \(SOM\) and geographic information system \(GIS\) on the Caspian southern coasts](#), Journal of Mountain Science 17 (7), 1724-1734

S Sahour, M Khanbeyki, V Gholami, H Sahour, I Kahvazade, H Karimi (2023) [Evaluation of machine learning algorithms for groundwater quality modeling](#), Environmental Science and Pollution Research 30 (16), 46004-46021