

Reviewer Comments and Responses

I am very much thankful to the reviewers for their deep and thorough review. I have revised my present research paper in the light of their useful suggestions and comments. I hope my revision has improved the paper to a level of their satisfaction. Number wise answers to their specific comments/suggestions/queries are as follows:

Reviewer #1

Major comments:

Comment-1:

1. What is the novelty of this manuscript? The authors adopted a rather old and standard methodology and applied a sensitivity analysis of a few factors deemed to be important in the study area. The authors arrived at a few spatial maps of vulnerability for the Kerman-Baghin aquifer in Iran. I think this is the only contribution if their maps are correct and they might be useful for stakeholders or researchers interested in this region. However, the authors claim that they can not share the data. Thus, what is the point to publish this paper? If the authors have other objective, they should highlight their contribution. In the current version, this is certainly not the case.

Response:

Many studies have been conducted using DRASTIC index to estimate the groundwater vulnerability in different regions of the world. However, there are still a very few number of studies that used the CDRASTIC index for groundwater vulnerability evaluation. In this study, the DRASTIC original model was modified

by adding a new parameter called “land use.” The role of land use in aquifer vulnerability potential was determined.

On the other hand, water scarcity is a very critical and serious problem in Iran. In addition, the groundwater reduction makes the problem even worse. Groundwater is the only freshwater resource in the Kerman province, due to the lack of surface water. Therefore, it is necessary to conduct studies to protect groundwater in Iranian aquifers. The present study results can be useful for stakeholders or researchers interested in this region. Also, the manuscript authors confirm that they can share the data.

Comment-2:

2. The manuscript is difficult to follow in general with many small grammatic errors. I could not recommend publishing the work as it really requires extra efforts from the readers to guess what is saying. In many places, the authors repeat themselves many times with various statements having a similar meaning. In general, the information content/intensity is low.

Response:

The manuscript was edited by an English language expert (Certificate editorial file was sent in supplementary martial) during the revision process.

Comment-3:

3. The authors have calculated two vulnerability indices. However, they did not point out why they did so. Are these two parameters telling different information? What is the difference between them? The authors should do the work of analyses rather than throw them to the reader.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Minor comments:

Comment-4:

LINE 1, for “assessing” groundwater vulnerability.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-5:

LINE 13, 23, indexes -> indices.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-6:

LINE 16, how can you rank, weight and integrate sensitive parameters based on a GIS? Isn't the ranking based on the DRASTIC indices.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-7:

LINE 21, reveals.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-8:

LINE 25-26, how is this conclusion made? How do you know vulnerability maps is useful in controlling actual human activities just based on a sensitivity analysis?

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-9:

LINE 26, protection and sustainable usage of groundwater?

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-10:

LINE 27, sensitivity analysis

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-11:

LINE 54, firstly -> first

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-12:

LINE 60, lastly -> last

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-13:

LINE 66 and 67, remove these blank lines.

Response:

The changes were made.

Comment-14:

LINE 105, why the water level drop could increase contamination potential?

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-15:

LINE 110, “The Kerman province”

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-16:

LINE 155, this is not an equation.

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.

Comment-17:

LINE 341, sensitivities?

Response:

The changes were made. The changes highlighted in the manuscript with the yellow color.