

Dear editor,

We thank you for your consideration about our study, and for the feedback on the manuscript. As you mention it, we realize that our response could have appeared inappropriate regarding the chosen words. Indeed, we believe that the work of the reviewers helped us to raise several issues and inconsistencies of the initial version. By our responses, we are hoping that the reviewers still agreed with the corrections made in the paper.

Please, find hereafter, the corrections and the corresponding line in the latexdiff version, highlighting the changes that were operated after your comments:

*As suggested by reviewer 2, please also mention the potential for leaky sewer and water supply lumbing networks to recharge groundwater and act as drains (in the case of sewers) that limit how shallow the water table can rise in some areas.*

P1.L22-P2.L3: Adding precisions on the drain and recharge effect of underground hydraulic networks .

*Gaurantee*

P2.L27: changed

*directional trends in hydraulic head gradients*

P2.L33: changed

*word missing*

P3.L4-L6: The citation was corrected with the exact sentence, associated with a short description of the symbols used by Haitjema 2005.

*Not clear. Do you mean "subtracted from"? Is this the step where you convert the UZD map into a head map?*

P4.L11-L12: The “subtract” verb is the appropriate word, and it is indeed the step where the UZD map is converted into a head map, we corrected the word and added this precision to make the text clearer.

*This is not true as a blanket statement. It may be true in cases where the water table and topography, including their gradients, are variable spatially. But inherently the water table, topography and UZD are directional. This leads to a type of non-stationarity in which the expected value and it's variance differ dramatically when looking perpendicular to the gradient versus looking parallel to the gradient. In the former, at the local scale, there is no change in the variable, and the variance is nil. In the latter, at the local scale, the spatial variance increases parabolically and never reaches a sill if the gradient is uniform. So, perhaps the quick way out of this conundrum is for you to assert that the directional gradients in UZD are much less pronounced or more irregular than the h gradients, making it more amenable to treatment with stationary geostatistics. In the sentence that follows, you should make it clear that if there are significant trends in the data, then geostatistica approaches that account for that can be applied, such as universal kriging (cite a geostats text such as Goovaerts).*

P4.L18-22: We understand that this statement was not true in every topographic context or scale. We changed it following your argumentation. The new sentence compares qualitatively the stationarity of UZD and piezometric head, asserting that the UZD is more stationary than piezometric head.

*Computed*

P4.L25: changed

*Radii*

P4.L31: changed

*Ing*

P5.L7: changed

*While the above procedure was used to roughly approximate which wells are affected by pumping, any future applications of the method outlined in this technical note should identify the wells impacted by pumping using actual data on pumping rates and locations*

P5.L25-L27: sentence added

*Please show either in figure 3, 6 or as an inset in this figure which reach of the river-aquifer system is being depicted in a.*

Fig.5: the location of the studied reach for the disconnection criteria adjustment was directly added using a minimap that have the same extension than Fig.3 and 6.

Finally, we also mentioned the reviewers' contribution, as well as yours into the acknowledgments section.