

## ***Interactive comment on “Analysis of Land surface Temperature change based on MODIS data, Case study: Inner Delta of Niger” by Abdramane Dembélé et al.***

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The authors thank the reviewer for thoroughly reviewing our manuscript, providing valuable suggestions to improve the manuscript. Therefore a language review has been made to the entire manuscript after all corrections addressed in the following paragraphs including the addition of the rest of the new data source for disaster assessment.

- Variation of groundwater levels in the face of climate change One of the priority axes in an analysis is to evaluate the climatic stress resulting in the lowering of the level of the aquifers and the increasing exploitation of the resource taking into account the external

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climatic conditions. The lowering of the tablecloth level threatened by a significant acceleration in the views of global warming shows different vulnerable zones including those in danger. The attention to take care of these areas needs more oversight as they define priority areas for water management. Overall, the Ilullemeden-Taoudéni / Tanezrouft (ITAS) aquifer system remains very little to little vulnerable to more than 80% at lowering of piezometric levels (Figure 11) (Gicresait, 2017). Considering the statistics generated in the study area as shows the Figure 12, 33.82% of the area is considered not very vulnerable and are mostly located in the northwestern part of the study area. The vulnerable zones detected in the center in the south-north direction occupy 26.34%, then 24.94% of the surface is occupied by the highly vulnerable zones, most of which are in the east, and the moderately vulnerable zones occupy 5.44% of the surface. Finally, the areas highly vulnerable (0.62%) and areas with very low vulnerability (2.94%) are located respectively in the southwestern part and the eastern part of the study area. The area extending from the area Vulnerable to the highly vulnerable zone appear excessively exploited by the population as a result of global warming, whereas the less vulnerable areas and the areas of low vulnerability with less populated occupation appear to be sufficiently preserved from this vulnerability.

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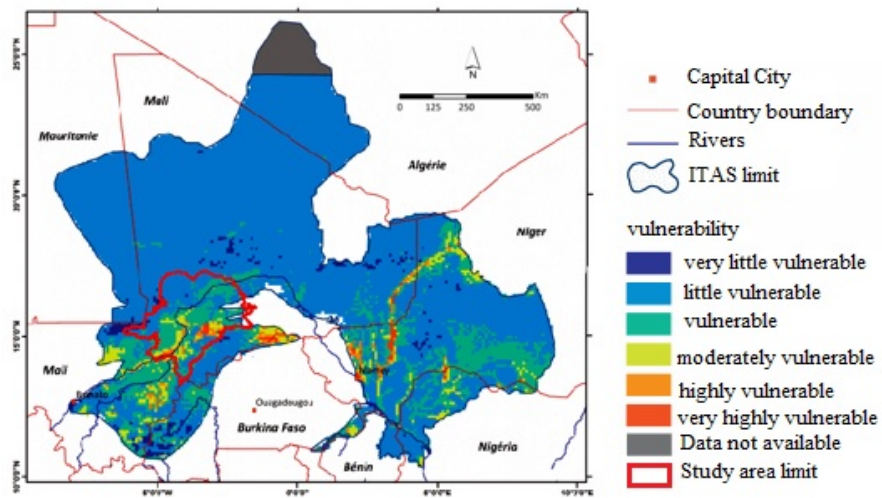


Figure 11 Vulnerability of groundwater related to climate change in the Iullemeden-Taoudeni / Tanezrouft aquifer system (ITAS) (Sahara and Sahel Observatory 2013)

Fig. 1.

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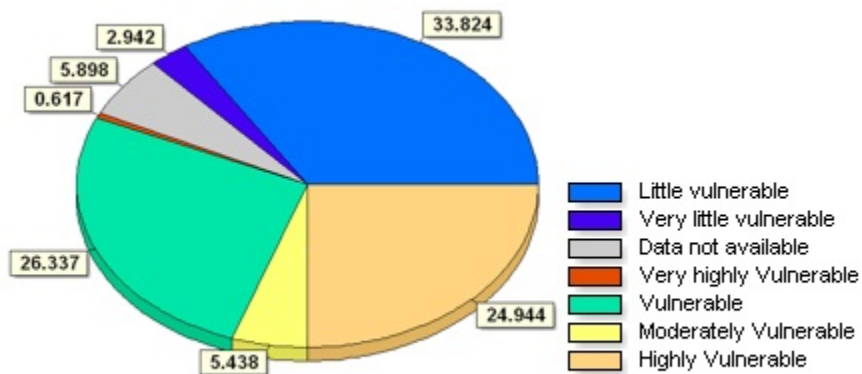


Figure 12 Statistics concerned by the study area

Fig. 2.

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