

Interactive comment on “Spatialised flood resilience measurement in rapidly urbanized coastal areas with complex semi-arid environment in Northern Morocco” by Narjiss Satour et al.

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The paper presents an interesting study on flood resilience for coastal areas. The paper reads very well. I have one major concern which leads to few references that must be added to the literature review on this topic.

My major concern is related with the fact that the study is solely based on geographical data excluding flood data. Even though the focus is on flood resilience; resilience is not based on flood data or flood simulation. In my point of view, this is an important drawback that needs to be addressed in several sections of the manuscript (including abstract and conclusion).

In the introduction a paragraph needs to be added on resilience and its dimensions. Particular the physical dimension, is often quantified based on physical indicators such as flood depth or flood duration (<https://doi.org/10.1016/j.watres.2015.05.030>, and <https://doi.org/10.3390/w11040830>) extracted from flood simulation data. The advantage of the latter reference is that recovery (one important stage of resilience) is time variable and can last longer than the flooding event itself.

The second paragraph in the introduction should be complemented with studies on existing climate change adaptation focusing on resilience (<https://doi.org/10.1177/0265813516655799>, <https://doi.org/10.1016/j.watres.2020.115502>).

Also a section on the limitations of the method presented should be added. This should state the drawbacks of an approach that does not consider real/simulate flood inundation maps. For example, The index of Elevation, would not be necessary. Since the flood routes would be captured by the flood maps. Those would reveal that some low lying areas may be not so flood prone than high lying areas because they may or may not lay near to a flood route.

Also I am unsure (line 192) what is meant with dam area. Is a dam area a flood risk area? If we consider that connection to a sewer system is enhancing our resilience why is a dam area the opposite? As far as I understood, there is no failure mechanism in this work, hence both should tend in the same direction.

One particular section I liked was 3.5. It includes a sentence relating risk and resilience. Are they really opposite? Perhaps the Authors could extend that paragraph. A recent paper discussing that point has been recently published, and may be worth discussing here (<https://doi.org/10.1016/j.wasec.2020.100059>).

I have no further comments regarding the text or the figures, both are already of high quality.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2019-417>, 2020.

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