

## ***Interactive comment on “Vulnerability of tourism development to salt karst hazards along the Jordanian Dead Sea shore” by Najib Abou Karaki et al.***

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**General comment** The article deals with severe hazards related to salt dissolution along the Jordanian Dead Sea shore, in an area which has been repeatedly affected by serious problems in the last decades, as testified by the high number of articles in international journal. In this case, the focus is on the vulnerability of tourism development, which in the last years was strongly developed in the area. In general, the paper is interesting, and well written, and presents well documented data about the damage caused by the series of sinkholes developing along the Dead Sea shores.

**Specific comments** My first, and main, concern is exactly about correspondence be-

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tween the title and the content of the manuscript. Given the title, I would have expected more space in the manuscript to be given to the issue of vulnerability, which seems to me to be just touched in a few points (for instance, by quoting the Cooper's classification of damage to buildings, and through brief description of the main man-made infrastructures in the area). Authors also mention some classification, specific to karst, about the disturbance induced by man to the natural environment, but they fail to apply any of this. I believe some efforts should be done in this direction, in the attempt to evaluate how the vulnerable elements in the area might be affected, and how this might contribute in the aforementioned indices to the overall disturbance of the area. Further, some other indices may also be mentioned, such as that by Angulo et al. (2013); Authors are invited to check the brief review by Mazzei and Parise (2018) about indices on karst. About the vulnerability mapping, this is a very important section, which should be in some way widened and improved. The same Authors admit that "The quality and reliability of the produced maps is strongly dependant on the completeness of the available photographic documentation". This is actually a very strong limit, which would deserve more discussion and comments. For instance, it is unclear to me how the damage detected by the pictures are integrated with satellite data.

Technical corrections A number of minor corrections and comments are provided in the attached file. Figures: some adjustments are needed, especially as regards the lack of the graphic scale and of North in some figures (see attached file for details). Reference list: some additional references have been added. In particular, I kindly invite the Authors to have a look at the recently published books by Springer (Stevanovic, 2015) and by the Geological Society of London (Parise et al., 2018), where they can find interesting materials as concerns karst and karst hazards.

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2018-479/hess-2018-479-RC1-supplement.pdf>

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