Answer to comments of Reviewer 1

We would like to thank reviewer 1 for the constructive and fruitful comments, suggestions and improvement. Our answers and changes follow below for each mentioned point.

- *Could you please present the results of regional and local geological summary that you used for geophysical data interpretation? This would help readers get a sense of how you calibrated geophysical data.*

In Sec. 2 we presented quite a complete overview of the geological and hydrogeological information obtained through various surveys in the last decades. The combined findings are used for interpretation of the geophysical data, and so the reader is now referred back to Sec. 2 for comparison.

- *Page 5: The Figure 1 (b). It is difficult to identify Ground penetrating Radar and S-Wave reflection seismic profiles.*

Figure 1 has been updated to improve the clarity and legibility of the labels.

- *Page 6: Figure 2. Could you please indicate on the field photos the limits of alluvial fans, halite cover, silt-clayey marl deposits, and alluvial deposits?*

We now indicated the limit between mud/saltflat and alluvial fans by a dashed white line in the upper left figure (part a) and adapted the figure caption accordingly. However, mud/saltflat refers to a large area in which halite cover and and clay/marl materials are interleaved, so distinguishing their limits is not practical. Themore detailed figures to the right serves to highligt the interleaving of the lacustrine deposits.

- *Page 8: Table 1. Could you please provide the Spring Id with logical numeration? Or provide the missing information for (4,5,6) Spring Id.*

The water sampling data presented in Table 1 is not our own, but is that collected by Sawarieh et al. (2000) (pg 29, Table 4-1). Therefore, to aid comparison and maintain consistency between the studies, we have used their numbering system for the water sampling data. Sawarieh et al. sampled sinkholes and springs in their work; since we are not interested in the sinkhole data, we omitted these from our table, hence the „missing" sample numbers. Figure 1 and the caption to Table 1 have been updated to make the source of these spring data clearer and to explain the origin of the numbering.

- *Page 10: line 28: Pansharpening pre-processing: What were the results? Did you obtain the same spatial resolution for all the satellite images you used? These could help readers understand the smallest fluvial and karst features you were able to identify and extract on remote sensing data.*

The satellite imagery pre-processing steps and spatial resolutions were detailed in a previous publication using the same data (Watson et al., 2019). Therefore, we have decided not to replicate the information here (especially in light of comments from reviewer 2 regarding the length of the manuscript). For details on the satellite imagery pre-processing, readers should refer to Section 3 and Table 1 of Watson et al. (2019).

- *Page 10: lines 32-34: What were the band combinations you chose for aerial and satellite images on which you manually digitalize the fluvial and karst features? Which bands did you choose? What was the base on which you chose these bands? Did you notice any band combination which highlights better the fluvial and karst features? Please provide more details.*

In the case of all of the high-resolution sensors which provided data for this study, only 4 multispectral bands are available: red, green, blue and near infra-red. All analysis was performed using 'natural colour' (R-G-B) imagery and all data is presented in this format to show the study area as it would appear in the field. Again details are available in the paper by Watson el al (2019), and the reader is referred to that work.

- *Page 11: Lines 17-19: Please provide spatial distance between each SP point measurements.*

Thanks for pointing this out. We indicated the spatial distance of 10 m now in the corresponding part.

- *Page 16: Figure 6: Please indicate the limits of CS (with a box).*

This is done now with a dashed line box in Fig. 5 (note the shift of figure numbers after Fig. 4).

- *Pages 20-21: Figure 7-8: Could you please provide the name of satellite and the band combination for aerial and satellite imagery presented on the left column of these Figures?*

Names of the satellite/survey have been provided in the figure caption. For band information, please refer to the response to the previous comment.

With best regards,

Djamil Al-Halbouni on behalf of all co-authors.