

Interactive comment on “The use of GIS and remote sensing for the assessment of waterlogging in the dryland irrigated catchments of Farafra Oasis in Egypt” by M. El Bastawesy and R. Ramadan Ali

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Reviewer 2

Comment 1: This is a courageous and scientifically important paper and should be published after the language has been cleaned up. As is my practice, I am attaching my annotated version of the HESSD paper to my review, indicating the detail of the corrections I think are needed.

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Response: Thank you very much indeed for your comments and I will closely follow these raised points to improve the manuscript.

Comment 2: All highlighted words need attention, either grammatically or for spelling correction. The poor language and phrase construction makes this abstract difficult to follow on the first reading.

Response: I appreciate the effort which has been done by the reviewers to fix some language problems within the paper, so thanks very much indeed for their great help. However, I will pass the revised manuscript to a colleague of mine in Reading University, UK.

Comment 3: page 10541 lines 21-24; why is this sensible idea, which combats salination, no longer in practice?

Response: the reclamation of new Saharan areas is not preceded by multi-disciplinary research, and only consider the availability of groundwater resources no matter what the geomorphological and landscape characteristics.

Comment 4: page 10544 line 12; How old? ancient?

Response: we don't have approximate data about the development and surface areas of the 'old' fields in Farafra Oasis, but these old fields can be traced back to the earliest available topographic maps produced in 1969 by the Egyptian Military survey, so we will digitize these fields and compare them with the satellite images.

Comment 5: page 10547 line 24; Is this your suggested reason for ineffective combatting of waterlogging in previous sentence? If so, it's important that the two sentences be linked.

Response: Yes and I will link these two sentences together.

Comment 6: page 10548 line 15; would it not be appropriate to put the technical description of soils in the above paragraph earlier in the paper? seems a bit late here

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Response: I agree and this technical description will be put in the earlier paragraph describing the properties and characteristics of the soil.

Comment 7: page 10550 line 12; So, to avert the creeping catastrophe: rip it up and start again? or is this a guide for the future? how do you resolve the current problem? who are the decision makers you are addressing?

Response: I agree with the reviewer that the discussion section should be expanded to address these important questions. I will amend my discussion section to fully cover these raised points.

Comment 8: Page 10557, Fig 3; It would be more dramatic to have heights in a log scale instead of linear, then the apparent outlet would be killed. Drainage location? It seems there is no escape when we see Fig 4!!

Response: This figure will be re-produced as recommended.

Comment 9: page 10558, Fig 4; This map is presumably after elimination of the DEM sinks and identification of the playas?

Response: Yes indeed and I will show this in the figure caption.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10535, 2011.