

Interactive comment on “Assessment and Monitoring of Land Degradation Using Geospatial Technology in Bathinda District, Punjab, India” by Naseer Ahmad and Puneeta Pandey

F. Pacheco (Referee)

fpacheco@utad.pt

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OUTLINE AND GENERAL APPRECIATION This study correlates remote sensing data (digital numbers) with physical-chemical parameters of soils (e.g. salinity) in the Bathinda District, Punjab, India, with the main purpose of using the correlations to assess land degradation across larger areas through soil salinity maps prepared from remotely sensed data. The study is interesting but needs some improvements (mostly detailed descriptions on several sections) before being prepared for publication, as detailed below.

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CONCERNS 1) The study objectives are not clearly stated. The authors should also mention the novelty brought by this study, when compared to other similar studies. 2) In the introduction, the authors state that “Improper land use practice has been attributed as one of the major causes of land degradation by various researchers”. A major form of improper land use is one leading to environmental land use conflicts. This type of improper use is characterized by a deviation between the actual and natural uses set by land capability. Environmental land use conflicts and their consequences for land degradation have been recently studied by various authors, namely (Pacheco et al., 2014, 2016; Valera et al., 2016; Valle Junior et al., 2014a,b; 2015). A mention to these studies would be appropriate. 3) The description of the study is is rather short. What are the reasons of soil salinization in the studied area? Is that irrigation? Of what cultures? Since when? What are the main crops and management practices in the area? No basic information is provided in the study area description, which should appear in the revised version. 4) Did the authors tried to use images free from meteorological effects, like MODIS? 5) What type of correlation analysis was used? Was it based on time series of DN or on average values? How was seasonality incorporated in the correlation analysis? A more detailed description of the results is required. 6) As with the study area description, the presentation of methods is also fragile. The authors must improve this section in the revised version.

RECOMMENDATION Major revision 14 January 2017

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