

# ***Interactive comment on* “Detection of Land Subsidence due to Excessive Groundwater Use Varying with Different Land Cover Types in Quetta valley, Pakistan Using ESA-Sentinel Satellite Data” by Waqas Ahmad et al.**

## **Anonymous Referee #2**

Received and published: 15 August 2017

### Generally comments

This paper analyzed the evolution of land subsidence from Oct. 2014 to Nov. 2016, and subsidence features under different land cover types in Pakistan. During the process Sentinel satellite data were adopted. This study is interesting.

### Specific comments

1.This paper worked on detecting land subsidence varying with land cover types. The accuracy of land cover classification is very important. What is the accuracy? Do you

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take some validation work? Please give the detail.

2. Where is the reference point during the SAR data process? Is the subsidence value at reference point equal to zero? However, paragraph 3.2.2 shows that subsidence rate is 30-120 mm/year in the study area. Do you make some calibration considering the reference point?

3. Generally PS points in vegetated areas are rare. How do you guarantee the accuracy of land subsidence in these areas?

4. What is the elevation range in study area? Can the SRTM 3 arc seconds digital elevation model with a resolution of 90 m meet the demand for topographic phase?

Technical corrections

1. The legend may be wrong in Figure 6. The dark blue should represent  $< -241$ , not  $< 241$ .

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-234>, 2017.

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