

# ***Interactive comment on “Vegetation Cover Change Detection and Assessment in Arid Environment Using Multi-temporal Remote Sensing images and Ecosystem Management Approach” by Anwar Abdelrahman Aly et al.***

**Anwar Abdelrahman Aly et al.**

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Anonymous Referee #2

Dear respective Reviewer

Thank you very much for valuable comments, below you will find our responds to the comments point by point:

Comment: After deep reviewing of the literature for NDVI calculation, I suggest the following modifications for the remote sensing part. Since NDVI is a calculated index,

you do not need to prove the accuracy of the results you get. This will increase the scientific value of your good research.

Respond: Thanks for comment, the accuracy removed.

Comment: Remove the last sentence of section 2.4, and replace it with the following: The NDVI images could be classified into three classes, namely dense vegetation cover ( $NDVI > 0.5$ ), moderate vegetation cover ( $NDVI 0.25 - 0.5$ ), and sparse vegetation cover ( $NDVI < 0.25$ ), as shown in Fig (4).

Respond: The last sentence removed and replaced with the required sentence.

Comment: Section 2.5 should be removed completely Section 2.6 becomes 2.5.

Respond: The section 2.5 removed and the section 2.6 became 2.5.

Comment: N.B. you can choose different threshold values other than these values, according to the literature you have.

Respond: Ok, thanks.

Comment: N.B. you can add the area of each vegetation class, for each satellite image date in a table to show the changes in the vegetation cover (you do not need to convert the NDVI data into vector format for further analysis).

Respond: Table 1 include the vegetation class (Table 1 included below)

Comment: Regarding table 1, the title of the table should be renamed to “spatio-temporal / characteristics of Al-Kharj ecosystem.

Respond: Table 1 renamed

Thanks Again and Kind Regards.

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/se-2016-31/se-2016-31-AC4-supplement.pdf>

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Interactive comment on Solid Earth Discuss., doi:10.5194/se-2016-31, 2016.

**SED**

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**Table 1.** Spatio-temporal characteristics of Al-Kharj ecosystem

| Reference<br>Year | Classified<br>image | Vegetation cover areas (Km <sup>2</sup> ) |                                 |                         | Total |
|-------------------|---------------------|---|---------------------------------|-------------------------|-------|
|                   |                     | Dense<br>(NDVI > 0.5)                     | Moderate<br>(NDVI = 0.25 – 0.5) | Sparse<br>(NDVI < 0.25) |       |
| 1987              | Landsat4<br>TM      | 36  | 69                              | 58                      | 163   |
| 2000              | Landsat7<br>ETM+    | 8   | 156                             | 174                     | 338   |
| 2013              | Landsat8            | 6   | 91                              | 148                     | 245   |

Fig. 1.

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