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Interactive comment on "**Desertification in Forest, Range and Desert Landuses of Tehran Province, Under the Impact of Climate Change**" *by* **Hadi Eskandari Dameneh et al.**

Anonymous Referee #2

Received and published: 10 April 2016

Review of "Desertification in Forest, Range and Desert Landuses of Tehran Province, Under the Impact of Climate Change" Hadi Eskandari Dameneh; Moslem Borji; Hassan Hhosravi; Ali Salajegheh

Submitted to the Journal of Solid Earth —————

In this manuscript, Eskandari et al. have presented the historical net primary production from MODIS and future projections from different climate scenarios based on HADCM3 climate model to estimate land cover change with a changing climate in Tehran, Iran. The topic is potentially interesting to climate scientists while it focuses in a highly urbanized region where sufficient investigations is lacking. However, I have important concerns regarding this revision before considering this manuscript for pub-

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Discussion paper

lication in any peer-reviewed journal. There are strong issues with the structure and clarity of the analysis as well as verbal, being categorized into general and specific comment.

1- Proofread: It seems the paper has not been carefully proofread, as they are numerous (many!) grammatical mistakes throughout the paper. The paper would have definitely benefited from an edit by a native/fluent speaker, but still some statements are questioning whether this manuscript has been proofread carefully by the authors. There are many typos and inconsistencies throughout the paper. Some of them are listed in the attached documents (special comments).

2- Analysis: This manuscript presents some of the results from a climate model (HADCM3) with minimal further analyses or verifications. The majority of the results section and figures are basically visualizing remote sensing or modeling data from other sources. On the other hand, the results from HADCM3 are presented while it is not clear why authors have chosen this model and ignored other GCMs. The results could be strongly different from a different climate model, specifically annual precipitations.

3- Conclusion: The manuscript lacks a proper and significant conclusion and supporting arguments. The authors state NPP (from level III MODIS data) could be used as a monitoring index for environmental features. This is not surprising neither clearly supported here. The study does not present a coherent structure to connect this variation with climate data. This could have been simply performed using a Bayesian model.

I believe this current revision could not be considered for publication, given all the comments above and special comments as follows.

Special comments: ——————— There are many typos and grammatical errors and missing articles (a, an, the) throughout the manuscript. Here, very few of them are listed. Page 1 -line 6: There must be a typo as the corresponding author is not one of the authors. -line 33: "but" is not needed here. -line 34: "rural regions" -line 34-

35: "Land degradation ... become available." should be revised. -line 38: Perhaps, "Investigating each of the three" not "Investigation of each three", this has occurred many times.

Page 3: -line 2: climate scenarios should be described here. -Line 10: What does this mean: " 26% of the NPP will be increased". Maybe NPP will increase by 26%? 17: "to combat and to monitor" not "to combat and monitoring" 24-25: this paragraph should be much more elaborative to explain what is the goal of this study. With specific research questions. 38: Each of these different scenarios represents

Page 4: Line 7: calibration process should be explained here. Line 18: "that do not" should not be abbreviated Equation 2, is not necessary, as it just explain the "sign" function

Line 23: tp is probably t_p Line 24: what is p? 25: "an increasing trend" and "a decreasing trend"

Page 5: 13: MODIS data are almost daily, depending on the overlapping tiles, could be 1-2 days -There is no need to explain MOD17A2 as it is not used in the study. -18-22: not related here. -28: missing period before GPP. 32: annual and global, no need to capitalize. Missing articles too. 32: the whole statement is redundant 34: The image processing is not calculated.

There are many more errors, but I stop listing them here.

-Page 9: -27-29: it seems the font size is larger than others

Fig 1: this figure seems to be distorted Fig 2 and Fig 3: should be merged into one figure'. Remove one legend Fig 3: the y-axis label is not consistent. Fig 4-6: merge these Fig 4-6: percentage of change is not clear whether increase or decrease Fig 7: caption: what is exactly the longterm period Fig 8: label for y-axis: units should be revisited Fig 9: label for y-axis: units should be revisited

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