

Interactive comment on “The climatology of dust aerosol over the arabian peninsula” by A. Shalaby et al.

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1-in this article I see that authors attempted to study the climatology of dust aerosol over the Arabian peninsula. However, they have selected quite short time periods that won't serve the purpose of their Climatology analysis.

Thank you for raising this crucial point, one of the objectives of this study is to validate the model simulation and we are limited to the available AERONET observation and satellite observations.

2-They tried to define dust seasons for the region which are quite known as well as to identify sources of radiative forcing uncertainties.

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The recent studies by Yu et al. 2013 and Notaro et al. 2013 update our knowledge about the climatology of dust seasons over the Arabian Peninsula, from observational approach. The modeling approach (especially, higher resolution modeling) provides the means to understand the physical processes behind atmospheric dust aerosol cycle and its climatic impact, and the purpose of this paper is provide more understanding about this issue.

3-Section two covers many basic and unneeded information which has been mentioned in many previous publications in much depth.

Thank you for this note, we have moved the unnecessary information like technical information about the AERONET and satellite platforms to the supplement, and provide the source references to these information. In the Methodology section we mentioned only what is relevant to this study.

4-Same apply for the modeling part where a lot of information about the used model is shown although can be easily referenced.

We have moved most of the model description and dust parameterization information to the supplement material. In the Methodology section we mentioned only what is relevant to this study and refer to the relevant references.

5-The major concern of this paper is the usage of an obsolete data set, namely, Collection 5 MODIS data although a more recent one is now available.

This is a very important issue. We have downloaded MODIS collection 6 and redo the analysis again. We rewrite the data section to reflect this update

6-There are major data issues with the whole manuscript that require immediate attention before the paper is even further reviewed.

The main issue about the data is due to some limitation in Giovanni site that could not provide longer time series related to Arabian Peninsula. It was a technical problem related to the site itself. Also there are limitations in home institute storage to

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download all the required dataset from the original repositories. However, we managed to download only the MODIS daily data (2003-2012) to update our analysis from http://ladsweb.nascom.nasa.gov/allData/6/MYD04_L2

I hope after such update, most of the data issue will be resolved and in the future we will deal with most updated and new data versions.

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