

*Interactive comment on “The impact of Pacific Decadal Oscillation on springtime dust activity in Syria” by Bing Pu and Paul Ginoux
Anonymous Referee #1
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We thank the reviewer for your very helpful comments. Our replies to the comments (in *Italic*) are listed below.

Motivated by the hypothesis that the Syrian civil war increases dust activity over Syria, this study investigates the contribution of atmospheric variability to the observed variance in dust activity. With a combination of different model simulations and satellite AOD retrievals, the long-term variability of the atmospheric circulation, respectively the PDO describing the main variability over Syria, is analyzed. Applied to the Syrian civil war period, the level of variance explained by atmospheric circulation (PDO) is estimated. The presented study illustrates the importance for considering both, atmospheric circulation and surface properties when investigating interannual variance in dust activity.

General comment

When comparing the individual reanalysis fields to the climate index, is the PDO/Nino index calculated from the corresponding model fields or is the index provided by the NOAA Climate Prediction Center taken?

The PDO and Niño 3.4 indices are observations downloaded from the NOAA Climate Prediction Center. This is clarified in section 2.3.

Minor comment

line 64: Please check whether Roberts and Knippertz (2012) is the best reference here. It is definitively a reference for Haboobs, but e.g. Morman Plumlee (2013) may be a more appropriate reference for dust effects on health.

Thanks for the suggestion. We have removed the citation of Roberts and Knippertz (2012) and added Morman and Plumlee (2013).

Morman, S. A., and G. S. Plumlee (2013), The role of airborne mineral dusts in human disease. Aeolian Research, v. 9, p. 203-212, doi:10.1016/j.aeolia.2012.12.001.