Reply on RC1
Seyed Vahid Mousavi et al.

Author comment on "Future dust concentration over the Middle East and North Africa region under global warming and stratospheric aerosol intervention scenarios" by Seyed Vahid Mousavi et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2022-370-AC2, 2022

Publisher's note: a revised supplement was added to this comment on 12 December 2022.

Dear Sir/Madam,

The point-to-point response to all the comments (the comments are rewritten in black color and the replies in blue) is attached. We appreciate the opportunity to revise our paper. We believe that the manuscript is much improved after positively addressing all the requested revisions. The main changes that have been made in the new version based on the referee's comments/suggestions are as follows:

- We replaced Fig.2 with two new figures, a new figure (Fig. 9) for detailed analysis of the correlation between dust and considered variables, and a second figure (see next point).
- We provide a new figure for annual trends (Fig. 10) of all considered variables over dust hot spots to interpret the positive and negative correlation considering ascending or descending trends
- New Table for the correlation coefficient over dust hot spots, shows which variable would have more effect on the change of future dust concentration in different regions
- New figures for monthly trends using box plots (Fig. 11 and Fig. S1), to give a better view of the statistical analysis and standard deviation of different scenarios
- Rewrite the result section with three subsections to increase readability
- Rewrite the result, discussion, and conclusion sections based on new findings and figures
- To magnify the parameter's changes over the dust hotspot regions, these regions are specified by dashed lines and overall contour plots.

Best Regards,

Vahid Mousavi

Please also note the supplement to this comment: https://acp.copernicus.org/preprints/acp-2022-370/acp-2022-370-AC2-supplement.pdf