

## ***Interactive comment on “Influence of Saharan dust on Atlantic tropical cyclones” by Zhenxi Zhang and Wen Zhou***

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Q1-The shown correlations do not imply causation. The authors didn't put any effort in trying to demonstrate the mechanism behind their assumptions: the sentence "A causes something to B BECAUSE they are highly negatively correlated each other" (see line 38 and many other places in the manuscript) doesn't make any sense and it is at the base of the current manuscript.

Answer: Although this study presents the relationships obtained between dust AOD and SST/TC/cloud properties, the physical mechanism behind these correlations has not been studied in depth, which will be the focus of our next research step, and the results will be used as a supplement to this manuscript.

C1

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Q2- The time period used is not clear: why only back to 1980?

Answer: MERRA-2 data starts from 1980.

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Q3- correlation are shown without considering statistical significance

Answer: The statistical significance of correlation is 95%, and we will change the relevant text content.

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Q4- differences are shown without any consideration regarding the statistical significance of the shown results: you can't just put to "color white" values lower than a threshold to highlight interesting patterns.

Answer: According to the comment of referee, we will reproduce the pictures, and change the relevant text content.

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Q5- You can find thousand of series showing the same behaviour of figure 5.. once again causation is missed.

Answer: Please refer to the answer of Q1.

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Q6- There are many minor comments such as : suspended phrases, missed units, inconsistent colorbars, etc.

Answer: These questions will be modified in manuscript.

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-761>,

C2

2020.

C3