

Review of: "Challenges and Prospects of Aerosol-Cloud-Precipitation Studies Over Africa"

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Potential competing interests: No potential competing interests to declare.

This manuscript describes the need for increased focused studies of aerosol-cloud-precipitation in Africa and the need for more observations that can advance our understanding of the aerosol-cloud-precipitation processes in Africa. I think this manuscript can be a good source for policymakers, and I have a few suggestions for how to improve the manuscript:

Abstract: Add parentheses around AEROCLO-sA and DACCIWA.

Introduction, first paragraph: I suggest adding more citations in the first paragraph.

Introduction, second paragraph: The first two sentences are circular arguments. Please rephrase. The last sentence basically describes why aerosols are one of the most important factors in precipitation. This paragraph should start with describing that aerosols act as CNN.

Section 2, first line: Add "several": "There are several scientific campaigns....."

Section 2: I suggest rewriting to: The ObseRvations of Aerosols above Clouds and their intEractionS (ORACELS) were deployed over three consecutive years (2016-2018) to characterize the seasonal evolution of single scattering"

Section 2: Add "The" in front of "Layered Atlantic Smoke Interactions with"

Section 2: I suggest rewriting: "LASIC equipment includes a Lidar that profiles the vertical structure of aerosols, and multiple radiosondes"

Section 2, third paragraph: The aimwas to investigate

Section 2, third paragraph: What is meant by "increased" by aircraft measurements?

Section 2, third paragraph: What is meant by "in-house" measurements? Should it be *in situ* measurements?

Section 2, fourth paragraph: Dynamics-Aerosol..... should be given an acronym here.

Section 2, fourth paragraph: I suggest replacing "and so on" with "and more".

Section 2, fifth paragraph: What type of experiment was the DECAFE? Ground-based, aircraft, satellite?

Section 2, fifth paragraph: I suggest rephrasing the last sentence: “Since few field campaigns have been carried out in East Africa, satellite sensors have been used to study the spatial and temporal characteristics of aerosols for 15 years (Boiyo et al., 2017).”

Section 2, sixth paragraph: I suggest rephrasing: “...a model simulation study of North African dust aerosol was carried out with five global models”

Section 2, sixth paragraph: The study by Solomon et al. (2008) seems to describe a modeling study. However, the section is called Field Campaigns (page 2). Furthermore, the description of the findings goes much more into detail compared to the descriptions of findings from the above-mentioned field campaigns. I find this paragraph out of place.

The study by Creaman does not seem to describe aerosol-cloud-precipitation interaction over Africa (though dust from Africa has an impact downstream).

Section 2, seventh paragraph: This study does also not seem to be a field campaign. If the authors want to keep the third and fourth paragraphs, they need to be put into a different framing and perhaps a different section.

Section 3, first paragraph: I suggest moving “technique” to after “modeling”: “Researchers employ a variety of measurement and modeling techniques to”

Section 4.1, first paragraph: What is meant by “radiation pressure?”

Section 4.1, first paragraph: The statement regarding ice crystals seems a little bit out of place or added with little introduction. Perhaps fill in a little bit more information about aerosols and ice crystals here.

Section 4.2, first paragraph: I suggest rephrasing: “Consequently, the difficulties in obtaining observations and data hinder a comprehensive.....”

Figure 3: Text below the figure should be the figure caption.

Section 4.2, third paragraph: What is meant by “...or logical constraints can lead to data collection”? I wonder if there is a missing word.

Throughout the document: Be consistent with how aerosol-cloud-precipitation is written. On one page, I saw: aerosol-cloud-precipitation, aerosol clouds and precipitation, aerosol cloud-precipitation.

Section 5, second paragraph: rephrase: “.....which offers *in situ* samples for aerosol and clouds, complements”

Section 5, second paragraph: It seems that the sentence starting with “The integration of various data sources.....” is basically a repeat of the previous sentence.

Section 6, third line: I am thinking limited field campaigns with aircraft observation could be added as well.

Section 6, first paragraph: It is stated that biomass burning smoke obscures satellite aerosol retrievals, but biomass

burning is aerosols.

Section 6, second paragraph: I am not sure “tendrils” is the correct word to use. I would delete this word.