

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

Guillaume Evin¹

¹ INRAE / IGE, Université Grenoble Alpes, Grenoble, France

Potential competing interests: No potential competing interests to declare.

This article presents a thorough overview of past research efforts made to understand aerosol-cloud-precipitation interactions in Africa, as well as current research projects on this topic. Several aspects are discussed: the different sources of measurements; international collaborations; modeling aspects, etc. Overall, this article is very informative. A minor comment that could be made is that the text is a bit lengthy and some messages are repeated several times. Some minor comments are listed below.

Section 1:

- “the unique composition’s atmosphere”: is it possible to be more explicit?
- “regional climate models, water resources, ...”: regional climate models are different from the rest of the list (sectoral stakes).
- “Aerosols are one of the most important influences on precipitation”: aerosols also influence air temperature, which influences precipitation at large scales. It should be mentioned at some point, in my opinion.

Section 2:

- “fires,,”: two commas.
- “as shown in Figure 1”. I would replace this part with “(Figure 1)”.
- “Another major campaign was Dynamics-Aerosol-Chemistry-Cloud Interactions”: the acronym DACCIWA could be added here.
- “The study underscores the challenges in simulating optical and physical processes.” Does it mean that global models are unable to simulate optical and physical processes? What are these challenges exactly?

Section 4.2:

- “African Easterly Jet is being misrepresented in models”: which type of models, GCMs, RCMs, CRMs?
- “Adapted from (Adebiyi et al., 2023)”: it should appear in the caption of Figure 3.