acp-2018-346
Aerosol distribution in the northern Gulf of Guinea: local anthropogenic sources, long-range transport and the role of coastal shallow circulations

Dear Dr. Flamant,

I have reviewed your manuscript revisions, as well as your responses to the concerns raised by both reviewers.

It is clear that you have worked hard to address all of the reviewer comments, both within the manuscript and in your responses. I am satisfied with all of your responses to both reviewers, with the exception of the primary concern raised by referee #2 regarding the generalization of the results. Referee #1 also touched in this in their question regarding what makes this particular day worthy of analysis.

I read through the manuscript and found a number of places where the extent of generalization could, and indeed should, be toned down using words like "could", "may", and so on. More particularly, I think that the Abstract, Introduction and the Conclusion should be edited to reflect this. The following are some examples of what should be considered. I would encourage the authors to address whether there are any others.

(1) Abstract
- The last sentence should include "can" before distribute. While your analysis is certainly accurate for this particular day, and while the role of these flow regimes has not been documented, the fact remains that this is only one possible way in which this may happen.
- I would include a statement regarding how representative this day is of the typical meteorological situation in July. Your responses indicate that you have performed this analysis, and you mention it in the manuscript. I would therefore allude to this in the abstract.
- After "Ghana and Togo" it is recommended that you include a statement as to how typical this flow regime is.
- Include a statement as to why this day was unique in terms of the lidar being operationa.

(2) Introduction
- Line 106: "The main objective of the present study is to understand how the lower tropospheric circulation over SWA shapes the urban pollution plumes emitted from coastal cities …." The current study contributes to this, however, only for one particular regime. There are likely to be many. It is recommended that something like "can shape" or "one of the mechanisms by which the lower tropospheric circulation … can shape"
- Again, it would be useful to comment on how common the synoptic setup is for this region.
- Some statement should be made regarding that this is a study of only one day and that caution should be exercised when drawing more general conclusions regarding the role of observed circulation in aerosol redistribution in this region.

(3) Conclusion
- Similar statements as noted above for the Abstract and the Introduction should be included in the Conclusion.

I look forward to reading your revised version that takes into account these suggestions.

Kind regards,
Sue van den Heever