

Referee #1 response to revised paper - Whitehead et al “Biogenic cloud nuclei in the Central Amazon during the transition from wet to dry season”

The revised manuscript has been improved beyond the original, and ultimately I recommend the article for publication.

There are a few issues from my initial review that I feel warrant addressing or were not fully addressed in the authors’ response, which I have detailed below:

1. Asymmetry factor

While the authors provided a reference to Crawford et al, addressing the need for some attempt at defining this quantity, the inclusion of A_f does nothing for the manuscript. It is not discussed, as far as I could tell, in any way. Possibly ways of discussing this would include: what do the A_f values for each cluster mean on an absolute scale? How do the values of the clusters compare to each other? How do they compare to other studies? What does a given value of A_f ...mean? As it stands, without any discussion of this quantity at all, all mentions of asymmetry factor should be removed. Of course, if it can be discussed and shown to be a quantity worth discussing in the manuscript, then by all means keep it in.

2. Crawford et al

In updated discussion within the manuscript on fluorescent signatures, the authors briefly describe some of the challenges in comparing fluorescent particle measurements across instruments. In the response to one of my comments, it was mentioned that the WIBS-3 used in this study is the same instrument, operated in the same way, that was used in Crawford et al. Given how many times the Crawford study is cited in this manuscript, and within the context of the discussion about the difficulty of comparing measurements across studies, please explicitly state that indeed this instrument is the same model and operated the same as in Crawford et al.

3. Figure 1

I appreciate the inclusion of an updated Figure 1 in the response to my review. Why not include it in the final manuscript though? As I stated earlier, this plot quickly and effectively communicates the difference in scale between the sub and super-micron modes in this location. I think it is important for readers to see a presentation like this given how much of the manuscript is dedicated to discussion of the super-micron. Contrary to what was stated in the response to my review, it does add to the paper.