Atmospheric
Measurement
Techniques
Discussions

Interactive comment on "A review and framework for the evaluation of pixel-level uncertainty estimates in satellite aerosol remote sensing" *by* Andrew M. Sayer et al.

Anonymous Referee #3

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This paper outlines the development of a framework for evaluating uncertainties for satellite AOD retrievals, although the authors note that this work is applicable to other retrieved quantities as well. The manuscript goes through an in-depth discussion of both prognostic and diagnostic methods for evaluating retrieval uncertainties and a framework for how to evaluate them. This is important work as estimates of retrieval uncertainty are crucial for many users, particularly for applications such as data assimilation. The outlined framework provides a way to verify the verification and a means for understanding where the uncertainty estimates can be improved. This paper is very detailed and well written. I think this is a good starting point for evaluation of forecast uncertainties and more analyses can be added in the future, for bias evaluation

for example. A minor point, perhaps you could also mark the sites that you designate as straightforward or complex in the tables and figures where you have individual AERONET sites evaluations (Table 8, Figure 7,8). This would make it easier to compare results for the two site categories. I recommend the manuscript for publication in AMT.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-318, 2019.