I am basically satisfied with the revision. I thank the authors for including the additional analysis of the moisture fields, which help deepen the study. I have some additional minor comments listed below. The most major one is that some discussion of how the HSRL-2 derived effective radii compare to what's been reported from the field campaigns, and what it means, would be nice

Line 49: "are in" -> "include"

Line 51: other more recent modeling studies quantifying the semi-direct radiative effect include Mallet et al 2020 ACP and Solmon et al 2021 npc climate and atmospheric science

Line 59-61: sentence a bit vague as written, the 3 studies cited I believe all focus on an increase in cloud cover/LWP by aerosol absorption occurring above the cloud. Aerosol embedded within the cloud layer can indeed reduce cloud cover through raising the temperature and lowering the relative humidity, shown, e.g., in Zhang and Zuidema 2019 ACP using data from ascension island.

Top of page 3: the way it's written is slightly confusing in that the paragraph under '2' suggests data from 3 campaigns will be used, but I think this study just focuses on September 2016, and only oracles data. This doesn't entirely come through.

Line 91: add 'September' after monthly-mean

Line 93: IOPs not defined. You could just say 'deployments', even clearer would be substituting 'for the September 2016 deployment' for 'for all ORACLES IOPs'. A basic description of the AEJ-S would also be helpful.

Line 313: if the authors can find some particle sizes from the campaign literature to cite here that would add interest. Wu et al 2020 ACP show PCASP-derived median diameters of about 230 nm for CLARIFY and report similar values from SAFARI data on their p. 12707. Shinozuka 2020 fig 9 shows UHSAS dry mean diameters of about 200 nm for smoke layers only. They didn't do effective radius unfortunately. Do these 2 studies suggest nevertheless that the HSRL2-derived values may be biased slightly high? The ORACLES September 2016 UHSAS and LDMA size data would be publicly available if the authors wanted to do a quick check.

References:

Mallet, M., F. Solmon, P. Nabat, N. Elguindi, F. Waquet, D. Bouniol, et al, 2020: Direct and semi-direct radiative forcing of biomass burning aerosols over the Southeast Atlantic (SEA)and its sensitivity to absorbing properties: a regional climate modeling study. *Atmos. Chem. Phys.*, **20**, p. 13191-13216, doi:10.5194/acp-20-13191-2020

Solmon, F., Elguindi, N., Mallet, M. et al. West African monsoon precipitation impacted by the South Eastern Atlantic biomass burning aerosol outflow. npj Clim Atmos Sci 4, 54 (2021). https://doi.org/10.1038/s41612-021-00210-w

Wu, H., Taylor, J. W., Szpek, K., Langridge, J. M., Williams, P. I., Flynn, M., et al.: Vertical variability of the properties of highly aged biomass burning aerosol transported over the southeast Atlantic during CLARIFY-2017, Atmos. Chem. Phys., 20, 12697–12719, https://doi.org/10.5194/acp-20-12697-2020, 2020.

Zhang, J. and P. Zuidema, 2019: The diurnal cycle of the smoky marine boundary layer observed during August in the remote southeast Atlantic. Atmos. Chem. Phys., 19, p. 14493-14516, doi:acp-19-14493-2019