

## ***Interactive comment on “Anthropogenic aerosol forcing of the AMOC and the associated mechanisms in CMIP6 models” by Taufiq Hassan et al.***

**Taufiq Hassan et al.**

rjallen@ucr.edu

Received and published: 18 February 2021

We thank anonymous reviewer # 2 for evaluating our manuscript. In the attached pdf (under supplement), we list our responses to each comment (in blue). We have added new analyses and figures related to ocean variables (e.g., mixed layer depth, sea surface density, etc.). We also include ocean subsurface analyses, including a new latitude versus depth AMOC figure. A new analysis that employs a regression-based method to further understand the mechanisms by which aerosols perturb the AMOC is also included in the revision. In particular, we decompose North Atlantic climate variables (e.g., SST, SSD) into an aerosol-forced response and a subsequent AMOC-

C1

related feedback.

Please also note the supplement to this comment:

<https://acp.copernicus.org/preprints/acp-2020-769/acp-2020-769-AC2-supplement.pdf>

---

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-769>, 2020.

C2