

## Point-by-Point Replies to the Editor

We thank the editor for taking care of the manuscript and providing useful comments. Here are our point-to-point replies:

The authors have done a nice job with the revisions. I only have two comments:

1) It looks like Lehner et al. never made it into your references list. Check this and others.

Reply: We have checked the manuscript and Lehner et al. is in the reference list in Lines 526-527, hiding between the two new references.

2) Your response to Reviewer #2, Lines 75-77 is a little dissatisfactory. It's okay if you don't know how different the latitudinal distribution is. It's better to be honest and state the possibility rather than appear as though you're hiding it.

We agreed with the editor and revised the sentence as "Liu et al. (2018) state that no volcano-induced AA is found due to the large temperature changes in the tropics, which may also be related to the latitudinal distribution of volcanic forcing, while others have found that the northern extra-tropics encounter a larger cooling a few years after eruptions (Zanchettin et al., 2019)."