

Referee comments in italics and answers in normal text

*Line 69: References missing for “Salinities in the North-East Atlantic may change due to melting ice masses and changing Atlantic Meridional Overturning Circulation, and global climate models do show a relatively large spectrum of changes by 2100.” Also, it should be “meridional” (and “Skagerrak” in the preceding sentence)*

Typos corrected. We have modified the text slightly and added a reference North-East Atlantic salinity changes in CMIP5 and 6 models.

*Line 275: I still don’t see that the response is linear in h. It seems as if the distance between the levels would increase very slightly with decreasing / more negative boundary salinity change (although it’s difficult to tell from the figure). Maybe, I misunderstand something. I guess, in the small range of salinity changes that are realistic, the assumption of linearity is acceptable.*

We have added “close to” since it is correct that it is difficult to see how well the linearity is fulfilled. However, comparing changes when, for constant RP, going to + and – 2 psu change in boundary salinity, they are quite similar but opposite.

*Figure 11: The caption states that “The arrows are described in the Figure 8 caption.” Is that really true? Aren’t they described in the caption of Figure 10?*

Thanks for catching that!

*Line 441: Should be “total exchange flow analysis”*

Corrected.

*Line 450: The term “significantly” should only be used when statistical significance is assessed*

Agreed. We have changed the text to state that the processes are all important contributions to the sensitivity.

*Line 452: What’s Meier et al. 2020? Do you mean 2023?*

Yes. Corrected.