

Earth Syst. Dynam. Discuss., author comment AC2
<https://doi.org/10.5194/esd-2021-15-AC2>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Reply on RC2

Andreas Lehmann et al.

Author comment on "Salinity dynamics of the Baltic Sea" by Andreas Lehmann et al.,
Earth Syst. Dynam. Discuss., <https://doi.org/10.5194/esd-2021-15-AC2>, 2021

Thank you very much for your valuable comments.

Reply to 1. Science: In this section salinity variability of different time scales is somehow mixed which might cause some confusion. We will rearrange this chapter starting from long-term variability over decades (Kniebusch et al. 2019; Radtke et al. 2020) to annual and monthly changes. A linear trend could not be found over the 35-year period 1982 to 2016 (Liblik and Lips (2019), see also (Windsor 2001, Fonselius and Valderrama 2003).

Reply to 2. A good point, the dynamics of small scale variability eddies and frontal regions are highly important for the salinity dynamics in total. We are not aware of recent studies since BACC II focusing on small-scale variability affecting low-frequency variations in the Baltic Sea. So, we will take this up in the chapter as knowledge gap.

Reply 3. We take this point under consideration and will check whether a short introductory summary at the beginning of each chapter will improve reading the manuscript without introducing too much repetitions.

4. Good comment, we will definitely refer to Weise et al. (2021).

References

Weisse, R., Dailidiene, I., Hünicke, B., Kahma, K., Madsen, K., Omstedt, A., Parnell, K., Schöne, T., Soomere T., Zhang, W., Zorita, E.: Sea level dynamics and coastal erosion in the Baltic Sea region. Earth Syst. Dynam., 12, 871-898, 2021.
[HTTPS://DOI.ORG/10.5194/ESD-12-871-2021](https://doi.org/10.5194/ESD-12-871-2021).