

The manuscript entitled “North Atlantic Sea Level Budget Revisited” addresses the important question of closing the regional sea level budget in the North Atlantic during the 2004–2022 period. The study builds upon and extends the work of Bouih et al. (2025). The authors identify the significant contributions of deep-ocean steric sea level changes below 2000 m and the manometric sea level derived from the CIGAR reanalysis. They also highlight potential errors in the GRACE and GRACE-FO datasets. Overall, this study makes a significant contribution to improving our understanding of the contemporary sea level budget in the North Atlantic.

The manuscript is generally well written and clearly presented. I therefore recommend minor revisions to clarify several statements and improve readability for the benefit of the readers. The detailed comments are below:

1. Line 61-63, the sentence may be rephased to be :”At the global scale, the two main contributors to the global mean sea level rise are ocean mass (known as barystatic sea level, Gregory et al., 2019) and thermosteric change.”
2. Line 96, typo. Should be “Section 4”.
3. Section 2.1.4. Bouih et al. (2025) evaluated six ocean reanalysis products. In this study, only CIGAR and ORAS5 were selected. Please provide a clearer justification for choosing ORAS5 over the other products considered by Bouih et al. (2025), such as GLORYS, C-GLORS, SODA, and FOAM. Can you summarize the major differences between CIGAR and ORAS5 in terms of the vertical physics and data-assimilation schemes since you indicated that they may have important implications for the results presented in Figure 3.
4. Section 2.2.1. You derived CIGAR manometric sea level. Why did not you compute ORAS5 manometric sea level? Please include some explanation.
5. Line 200. “this least-squares fit” should be “the linear least-squares fit”.
6. Line 210, “the law of error propagation, considering all terms of the sea level budget”. Can you define the residuals and explain explicitly how the error is calculated? For example ,the residual = altimeter sea level - manometric sea level - steric sea level. Assuming the uncertainties of these three terms are independent, the uncertainty of the residual is calculated by adding the individual uncertainties in quadrature.
7. Line 228. “with the most significant difference observed near Greenland.” To me, the most significant difference in Figure 1c is in the northeast Atlantic near Spain and France.
8. Line 236 and 241, 251. Typo. “Figure 3a-c” should be Figure 2a-c.

9. Line 275-276. “triggered by vertical physics and, to a lesser extent, vertical error correlations embedded in the 3D-Var scheme”. Could you elaborate more on this?
10. Line 306-307, can you cite some literatures to backup your suspicion “Given the unrealistically stationary thermoclinic signal observed in ORAS5 below 2000m”. What is the current observational consensus regarding deep-ocean warming below 2000 m depth? Please provide a brief summary and relevant references.
11. Line 336. “Figure 6a, b shows the scatter plots between SIO gridpoint steric trend” This statement is inconsistent with the caption of Figure 6. Please double check and clarify if Figure 6 shows trends or normalized trends.
12. Lines 339, 344, 345, 350. The correlation needs to be quantified using correlation coefficients and tests of statistical significance.
13. Figure 6. Please clarify what you plotted in Figure 6. What is the unit of x and y axis? Do you normalize the trend? If so, how do you normalize the trend?
14. Line 617-618. Maybe rephrase the sentence to be “What is the impact of using EN4 (without applying a salinity drift correction) in the assimilation procedure on the CIGAR steric component estimates?”