

Response to reviewer 1

Dear reviewer,

We thank you very much for your overall comments to our manuscript. Below, your reviews are reproduced in black font and our responses in blue.

Review Comments

The authors have substantially improved the manuscript in response to previous reviewer comments. The study presents a solid observational analysis of dense shelf water cascading (DSWC) and sediment transport in the Cap de Creus Canyon during the mild winter of 2021–2022. The dataset is comprehensive (moorings, gliders, CTD profiles, and reanalysis products), and the comparisons with both previous mild-winter and strong-winter events now place the results in the correct broader context. The manuscript is much clearer and better framed than earlier versions.

Remaining Issues

1. Table 1

Table 1 is useful for transparency (particularly for RMSE validation values and comparison with *Martín et al., 2013*), but the essential findings (RMSE consistently <0.2 °C; quantitative comparability across events) are already described in the text. To streamline the manuscript, I recommend moving Table 1 to the Supplementary Material and retaining only a summary statement in the main text.

Reply: Thank you for your suggestion. We have moved Table 1 to Appendix 1 and renamed it as Table A1. We have also updated the appendix title to “Comparison between in-situ observations and reanalysis data across the Cap de Creus Canyon” to better reflect its content.

2. Minor corrections

- **Acronyms** – In Section 3.2.1, correct ECMWF to *European Centre for Medium-range Weather Forecasts (ECMWF)*.

Reply: Changed.

- **Hyphenation** – Standardise usage of *dense shelf water cascading* (no hyphen) or *dense shelf-water cascading* (with hyphen) consistently across text and figure captions. So to be consistent just remove the hyphen from Title.

Reply: Changed.

Overall Recommendation

With these final minor corrections, the manuscript will be well-prepared for publication in *Ocean Science*. The observational dataset is valuable, the analyses are sound, and the paper now provides meaningful and well-contextualized insights into DSWC dynamics in a mild winter regime for the Cap de Creus Canyon.

Reply: We are glad that the revisions have improved the message and overall quality of the manuscript. We appreciate the positive feedback and the final recommendation for publication.