

# answer to editor comments

October 2025

Dear Authors Thank-you for your responses to referees and the revised manuscript. I think you have largely responded appropriately to the referee comments but in some cases I would like to see better representation of your response in the revised manuscript. If readers have a similar comment it is better to give them easy access to some form of response, either directly in the manuscript or by reference. This applies to the first three items below. The other “Detailed comments” are minor but are intended to improve clarity in a revised version which I would like to see.

Yours sincerely  
John Huthnance (Editor)

Dear Editor,

We thank you for your interest in our paper and your valuable comments.

We are pleased to present our revised manuscript for your consideration. Among the main changes, we included, as suggested, some elements of our response to the reviewers directly in the manuscript.

A detailed point-by-point response to your comments is appended to this letter.

Best regards, Adèle Moncuquet

## 1 Editors comments

Regarding Ref 1 comment on Fig. 1 and comparison between mooring and MVP data, I think you should consider including a summary of your response in the final manuscript.

We have added this paragraph in the revised manuscript (line 101-104) :

”In a previous paper using the same dataset (Moncuquet et al., 2025), the vertical distribution of the sensors was shown to be satisfactory to capture the stratification. A comparison of the temperature profiles from the thermistors and the higher-resolution MVP measurements is presented in Figure 7 of that study.”

Regarding Ref 2 comment M1, I think you should consider including your response “M1.pdf” as a linked supplement and also include its results briefly

in the main text with reference to the supplement. Please note however that supplements are not copy-edited.

We have added a paragraph in both the Methods section and the Conclusions section of the revised manuscript. We have also included M1.pdf as Supplementary material.

We added this text (line 200-204): "We computed an estimate of the uncertainty in both the total and the Eulerian transport by propagating the measurement uncertainties (see Supplementary material for details). The uncertainty was on the order of  $10^{-2}m^2/s$ . The uncertainty was generally small compared to the transport magnitude and only a small number of near-zero values had an uncertainty that was greater than 50% of the transport. However, removing these values resulted in time-averages that were slightly reduced, therefore we decided to not remove these values from the analysis to avoid introducing bias."

We added this text (line 452-455) : "Instrument uncertainty propagation analysis showed that uncertainty was generally small compared to the transport magnitude ( $10^{-2}m^2/s$ ) and only a small number of near zero values had an uncertainty that was greater than 50% of the transport. This demonstrates the robustness of both the residual transport structure and magnitude (see Supplementary materials)."

Regarding Ref 2 comment M3 about the 24 h filter cutoff, I think you should consider including a summary of your response in the final manuscript.

We added these sentences to the Methods section (line 195-198): "The 24-hour low-pass filter was evaluated against the Demerliac tidal filter (Demerliac,1974), applied to hourly data, and was found to perform adequately (see Appendix Figures A3,A4,A5).The 24-hour low-pass filter was selected as it can be applied to non hourly data and maintain the full temporal coverage of the measurements."

We have added the 3 figures in the response to M3 and this paragraph in the Appendix : "Eulerian transport was computed using a 24-hour low-pass filter and Demerliac tidal filtering applied to hourly data. The time-averaged  $Q_{Eu}$  was similar with both methods. Although the filtered Demerliac data display less variability, the structure and intensity of the observed events are similar to those in the 24-hour low-pass dataset, which was considered adequate for the current analysis."

## 2 Detailed comments

- Line 38 end. "boluses"?  
Corrected
- Line 102. "so that the horizontal" needs completion or deletion.  
Corrected

- Line 108. Better “between 48.5°N and around 46.5°N” or “from 48.5°N to around 46.5°N”. Similarly for line 251 dates.  
Corrected
- Lines 130-131. I think you rotated the co-ordinates, not the currents.  
Corrected
- Line 162. “an” implies just one “NLIW” (omit “an” if more than one) whereas “NLIWs” implies more than one.  
Corrected here and elsewhere, - Line 200. Does “that paper” refer to Franks et. al (2020) or Thorpe (1968)? Better to be explicit.  
Corrected
- Line 230. “offshore” – “onshore”?  
Yes, thank you so much.
- Line 231. “August 10” is long before the start of figure 2b.  
Yes I meant October 8. I’m so sorry thank you.
- Line 241 end. Better “between 20 and 15 mab.” or “at 20-15 mab.”  
Corrected
- Line 251. C.f. line 108 comment.  
Corrected
- Lines 268-269. I suggest “flow; Lentz” and “2004) from July 12- Figure 4a,b.”  
Changed
- Lines 271-272. Just before July 27 as well? “increase of the temperature . . . warming of the near seabed temperature” – duplication.  
It started just before July 27, I modified the text and removed the parenthesis to suppress the duplication.
- Line 303: “internal waves solitons, surfaces wave,” –> “internal wave solitons, surface waves,”  
Corrected
- Line 311. “on” – “to”  
Corrected
- Line 315. Better “. . 15 °C; QEu was small . . .”  
Changed
- Line 353: “drove” - “caused”  
Changed
- Line 377. “. . (Figure 7a,b). . .”  
Changed
- Line 467. “. . NLIWs on the different components . . .”?  
Corrected
- Line 472. “. . tides and NLIWs . . .”?  
Corrected
- Lines 491-493. “using” three times in the sentence. It is not clear what two variables the regression is between. Agreed. The sentence was modified into : ”Density was computed as a function of the temperature using the linear regression observed from the MVP measurements. The relationship between density and conductivity was considered stationary. ”

### 3 M1.pdf

- 1 Context. “This supplement aims . . . comment: “Since . . . fluxes.” would suffice for the final publication.  
ok
- 2.2 first sentence. “. . . error of a quantity . . . combination . . .”  
Corrected
- Second line after (3). “. . . formula is in . . .”  
Corrected
- 2.3 before (4) and 2.3.1 before (5). “. . . transport is expressed as . . .”  
Corrected
- Second line after (4). “. . . independent and collocated . . .”  
Corrected
- Third line after (4). “. . . represents low-pass filtering.”  
Corrected
- Line after (6) I think you want the definition of  $\delta h$  here.  
yes, we have added the definition of  $\delta h$ ;  $k$  and moved the definition of  $M$  at this location.
- Line before 2.4 and line of 2.4.1. “uncertainty in”  
Corrected
- Line before (9). “interpolated” (spelling). “expressed as”.  
Corrected
- 2.4.2 line 1. Better to mention “low pass” here as well as in the figure 1 caption.  
Changed
- Line 3 and Figure 1 caption. “cutting”  $\rightarrow$  “cut-off”? Line 3 also “1/(24 hours)”.  
Corrected
- Figure 1 should give units for frequency.  
Corrected
- Line after (13). “explicated”  $\rightarrow$  “described”  
Corrected
- 2.6 second sentence. “untrustable”  $\rightarrow$  “uncertain”?  
Corrected
- 3.1.1 lines 4-5. “can dominate”.  
Corrected
- 3.1.1 2nd paragraph 2nd sentence. “. . . before 17th July, when the transport reached a maximum”  
Corrected
- 3.2 line 5: “. . . reduced:  $\sigma$  . . .”  
Corrected
- 3.2.1 line 6. Omit first “mostly”. Line 7. “NaN”  
Changed