

Review of “Along-channel Variability of Total Exchange Flow in a Narrow, Well-mixed Estuary: Influence of the M4 Tide”

The authors would like to thank the Editor and reviewers again for their thorough reading of the manuscript and for their insightful and useful comments and suggestions that have greatly helped improve the quality of this manuscript. The manuscript has undergone another revision round according to the editor and reviewers’ comments.

Please find below a point-to-point reply to your comments. The original Comments are written in blue. Authors’ answers are written in black. Text modifications made in the revised version of the manuscript are indicated in *violet italic*.

Response to Editor and Reviewers

Public justification by Julian Mak, 16 May 2026

Q.0.1 — I’d like thank the authors and the referees for their comments and edits here, and would proceed as an “acceptance subject to minor corrections”. The text corrections from the referee and myself should be trivial, but I do need to see the “Code and data availability” section and do the relevant checks for that.

Thank you again for submitting to EGU Ocean Science

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My line numbers refer to those in the tracked file.

R.0.1 Thank you. Sure. Code and data availability is now visible in the right section and with the links provided.

*Observational data of the Guadalquivir Estuary are available from <https://doi.org/10.5281/zenodo.3459610> (CC BY 4.0 license).
Code to perform Total Exchange Flow analysis is available in <https://github.com/florianboergel/pyTEF> .*

Q.0.2 — * line 4 and elsewhere in a lot of places around the text: So here ”M2 + M4” is in mathfont (between I assume), but elsewhere (e.g. line 13, 66, 71) it is as normal text, and I would suggest choose one or the other but

not mix it, i.e. do "M2 + M4" or "M2 + M4" or put dollar signs around all the "M2" and "M4" where it appears.

R.0.2 Done. All M2 and M4 are in math mode now.

Q.0.3 — * line 108-109: Some spurious text and some grammar things, probably. "...incoming and outgoing flows ARE arranged in two layers in the salinity space..." or "...incoming and outgoing flows ARE arranged in two layers in salinity coordinates S..." First one reads better to me.

R.0.3 Yes. Corrected and rephrased.

Q.0.4 — * line 150: "...semidiurnal, M2 BEING the most..."

R.0.4 Done.

Q.0.5 — * line 176: "... Fig. 1), providING one data set..."

R.0.5 Done.

Q.0.6 — * Fig 2 caption: "NOTE the inversion of the vertical axis."

R.0.6 Done.

Q.0.7 — * line 285-286: The use of "thickness" and the need for the accompanying justification text for it is making it more convoluted than it needs to. Would just get rid of it and use "...it changes the RANGE OF SALINITIES of the layers." This would then mirror the "range of salinities" used in line 287.

R.0.7 We agree with the Editor. Word 'thickness' has been removed altogether from the manuscript. Instead, we use 'range of salinities'.

Q.0.8 — * Table 4: Would put dollar signs over all the numerical entries here, because "-" and "−" render differently (e.g. line 326); the former is a dash, while the latter is a minus sign, and it's the latter that's wanted here.

R.0.8 All numbers in Table 4 are now in math mode using $—$.

Q.0.9 — * line 378: Here it's the dash that's wanted, so e.g. "23.44 - 24.68psu" and so forth for other entries on this page (except the one at line 373 which should be a hyphen).

R.0.9 Corrected.

Q.0.10 — * line 400: "To this end, other semidirunal tides SHOULD BE CONSIDERED to..."

R.0.10 Done.

Q.0.11 — * line 438: Is it "-", "- " or "- "? This one I can't tell, but it shouldn't be the last one.

R.0.11 It is not. It is '-' in all sentences in which appear 'density-driven' and other compound terms.

Reviewer 1

RC1: Report#2, Submitted on 13 May 2026

The article has clearly improved, I now support publication of the article. I just found a few typos in the text:

Q.1.1 — Line 14: "both outflows and inflows flows"

R.1.1 Corrected.

Q.1.2 — Line 134: "being the M2 is the most"

R.1.2 Rephrased. This has also been indicated by the Editor.

Q.1.3 — Line 193: brackets of citation

R.1.3 Done.

Q.1.4 — Line 362: "acknowledge"

R.1.4 Corrected

Q.1.5 — Line 365: "it should be considered other semidiurnal tides"

R.1.5 The sentence has been rephrased. This has also been indicated by the Editor.

Q.1.6 — Line 394: brackets of citation

R.1.6 Done.