

Dear Reviewer,

We greatly appreciate your constructive comments. Below we provide detailed point-by-point responses as well as changes performed in the new version of the manuscript regarding the comments. Modifications in the revised manuscript are shown in purple.

1. **Discussion of 3D Processes:** The study is based on a 2D model, which ignores all baroclinic processes. It is necessary to include a brief discussion in section 2.1 about 3D processes, with references, and clearly state that 3D processes can be ignored compared to tidal currents.

Thank you for your pertinent comment. Following the Reviewer's recommendation a text containing a discussion of the choice of 2D model for the present study has been added to section 2.3, lines 115-119. For your convenience, the text is also reproduced below.

The water dynamics in the eastern English Channel is largely dominated by tides. The baroclinic effects on the vertical are negligible due to the enhanced mixing affecting the entire water column (e.g., Breton and Salomon, 1995). Moreover, the study area is located fairly far away from the major source of buoyancy – the Seine River, whose discharge was low during the measurement period. The use of a 2D model was therefore justified. The variation of salinity in the horizontal plan is taken into account in the 2D model.

2. **Stokes Drift:** You mention that the Stokes drift impacts the drift and is ignored. You need to provide estimated values of surface Stokes drift based on wind speed or available modeled results (e.g., WWII results from Arduin Fabrice's group).

The estimation of surface Stokes drift based on wind speed is given in the discussion (Section 5), L472-474 of the revised manuscript.

3. **Drifter Parameters:** You listed some parameters of the drifter used in this study. However, it is unclear whether the drifter measured surface trajectories or averaged depth trajectories. Please clarify this.

Thank you for your comment. The presentation of drifters has been clarified in Section 2.2, L105 of the revised manuscript.

4. **Relevance of Paragraph L30-L40:** This paragraph does not seem closely related to the study. Your study is mostly based on a 2D model focusing on tidal dynamics in coastal areas. The paragraph discusses mesoscale and submesoscale processes in the ocean, which are mainly associated with 3D baroclinic processes. Consider revising or removing this paragraph for better alignment with the study's focus.

Following the Reviewer's recommendation, the corresponding paragraph in Introduction has been removed.