Second review for the manuscript

'Exploring water accumulation dynamics in the Pearl River Estuary from a Langrangian Perspective'.

The authors have significantly improved the quality of their manuscript and have responded satisfactorily in most comments and provided appropriate clarifications wherever needed. However, there are still some ambiguities which are important to be addressed before the paper is published. In addition, I provide some comments that hopefully the authors would find useful for improving their layout.

Major comment:

There is a concern regarding the use of the term probability in the figures which requires clarification. In figure 5, the authors plot D (and not D^{t_0}) which is the evolution of the initial distribution but not probability. In any case, the probability cannot be above 1. I would advise to either replace the word probability or normalize the results (e.g., by dividing with the total number of particles) so that the values remain below 1.

Do the authors plot in Figure 6 accumulation probability? And is it the same with what is plotted in Figure 7? Because there seems to be a disagreement between what is plotted in figure 6 and figure 7. In figure 6, the authors plot the probability of particles moving in each region and the range of values is between 0 and 0.07. But then, in Figure 7 a and b, the range of values of accumulation probability extends between 0 and 4. How are these two figures related? Do they show both the same thing (i.e., accumulation probability)? The same concern about the probability being more than 1 applies here.

Also, in Figure 6, the authors mention in the caption that the plot shows the connection between six subregions, but the legend shows probability. Please clarify these terms and modify the caption accordingly.

Similarly, in Figure 10 and 13 the authors mention in the captions that they plot probability anomaly. I find the word probability again irrelevant, at least based on their definition of anomaly as given in their response. Besides, probability cannot be negative. It would probably be better to remove the word probability from these figures.

Minor:

1. To reduce the number of figures in your paper, I suggest the following:
- Merge the panels of Figure 3 and Figure 5
- Figure 4 can be moved in the supplementary
- Merge the panels of Figure 10 and Figure 13
2. Please add a sentence in your manuscript to describe how you define the anomaly in Figure 10 and Figure 13.
3. Please add a sentence in your manuscript with the explanation you give on your response on why you decided to focus on the bottom layers accumulation only.

Furthermore:

Line 48 state instead of 'health'

Line 52 biogeochemical conditions instead of 'health'

Line 57 usually appear eutrophic.

Line 60 add space between sinks and (Mestres)

Line 62 remove D from Zhang

Line 68-71 this sentence is not very well written, please rephrase.

Line 97 layers instead of levels.

Line 101-102 I would advise to include Figure R8 in the Supplementary

Line 112 remove Elizabeth NEW

General comment: do not include authors' first name when citing papers in the manuscript.