The manuscript has improved significantly from the previous version, both in writing and the overall flow. Although the authors have addressed most of my comments, some clarifications are still needed. I list those comments which require further clarifications below, together with some new thoughts.

[1] Halocline depths are used throughout the paper, in context with APE, Eady timescale, and EKE. These variables are more relevant to isopycnal steepness in the halocline (halocline strength as put in the manuscript), not the depth. Halocline depths are associated with both its steepness and water redistribution. It would be clearer if the authors discriminate these terms and use the right term in different sections/paragraphs.

[2] Paragraph 2-5 in the Introduction section: the authors listed many findings from previous literature, but these paragraphs lack a logical flow which connects the previous work. I recommend restructuring these paragraphs for clarity.

[3] Line 152: the authors focus on the PWW part of the halocline in the paper. However, the introduction reads like the entire halocline (from ~30m to ~250m) will be explored. It would be clearer if the authors can clarify their major research topic in the introduction.

[4] Line 240: Can the authors explain why a symmetrical shaped halocline implies a state of equilibrium? Isopycnal steepness can still change even after halocline becomes symmetric.

[5] Figure 5: Days of eddies are strongly related to how fast eddies were translated by background currents. This makes this metric less reliable to represent the eddy activities. Can the authors comment on this?

[6] Line 291: The mooring measurements go up to ~50 m so EKE is not surface-intensified. Section 5 implies that the authors define upper ~100 m as surface (which includes halocline). It would be better if names of different layers are defined in the beginning to avoid confusion.

[7] Figure 8b: The major topic of this section is interannual variability (seasonal cycle is only mentioned in one sentence). Showing monthly EKE makes it harder to identify the trend and interannual variability. I suggest showing a panel with annual mean EKE.

[8] Line 381: I'm still confused how the probability is estimated. Is it the frequency of days with eddies in a period?

[9] Line 419: mixed layer is only the upper ~30 m. As in my comment [6], please define terms in advance to avoid confusion.

[10] Line 432-433: Can the authors explain why low-salinity water is at the subsurface? With a bowl-shaped halocline, at the same depth, water at the edge should be saltier than that in the basin interior.

[11] I understand that surface EKE in AL/BSS regions are closely related to halocline eddies inside the basin, but I'm still not clear about the reason of analyzing surface EKE in basin

interior. The authors in their previous response explain that surface EKE also impacts halocline, but I don't find the consistency. I suggest the authors add a sentence or two to motivate their analyses of surface EKE in basin interior.

[12] I'm convinced with the authors conclusion about the role of eddies in modulating halocline shapes and depths. Besides, wind pattern is an important factor which can directly alter the center of the surface sea level dome and thus the area of Ekman pumping. It's important to at least discuss atmosphere's role in the discussion part.