Dear Dr. Beron-Vera,

We appreciate your efforts to clarify the concept of eddies in the oceanographic community. And we agree that if oceanic transport or transport-related questions were the objectives, the elegant way shown in many of your papers is the right choice and should be utilized. However, for this study, we don’t think that is the case. The Eulerian, streamline-based methods are at least OK choices, and our findings are still a useful contribution to the literature.

Please allow me to say a bit about the background of this study, which we did not state in the manuscript. This paper was motivated by a previous study Ying Li and I conducted in the GoM (Zhu and Liang, 2020), in which we explored the connections between surface mesoscale features and deep ocean circulation. The data we used were mainly deep ocean moorings (Eulerian measurements) and satellite data. And we found that mesoscale features (the Eulerian view) could be important in some regions of the GoM in connecting the upper and bottom layers. Note that those mesoscale features could be Lagrangian coherent eddies or even large-scale waves. And because of our objectives, which were certainly not transport related, there was no need for us to separate them in that study. And during that study, we found that a compressive study of the characteristics of those mesoscale features in the GoM, like many studies conducted in the open ocean and other regional seas, was lacking. So this following-up study is to fill in the gap about the spatial and temporal patterns of those mesoscale features in the GoM.

Again, if you feel calling those features eddies is misleading (although a large number of studies did that), we could modify the text to make it clearer that we were not talking about Lagrangian coherent eddies. We can also explicitly remind the readers that if transport-related topics are what they care about, they should refer to Andrade-Canto et al. (2020) to learn and use the more appropriate methods.

Regards,

Xinfeng Liang