

I thank the authors for the collection of this extensive dataset. The manuscript presents a dataset collected by 50 underwater gliders and 2 autonomous underwater vehicles during 2014-2022 in the South China Sea to observe mesoscale eddies. It is an invaluable dataset of high-resolution observations (<7 km, <6 hours) from autonomous platforms, which can be used to study meso- and submesoscale dynamics in the South China Sea. The manuscript is detailed, all underwater gliders and autonomous underwater vehicle deployments and data QC (as per IOOS) are well described, some data applications from previous studies are explained, and figures are useful and well presented. The dataset seems complete, and the metadata and QC flags are provided in the data file. However, there are some grammar and vocabulary corrections that are needed to be made before publication. These are the reasons why I think this manuscript should be accepted subject to the following **minor revisions**.

For improving the readability of the manuscript, we suggest the following grammar, style and typo changes:

- Line 1: Title: “A High-**Resolution** Temperature-Salinity Dataset Observed...” . The community uses the term high-resolution to describe high density of observations.
- Line 2: Title: “Vehicles **of** Mesocale Eddies Evolution and...” (toward for of and eddies’ to eddies)
- Line 23: Change fulfilled for filled
- Line 25: Typo: submemesoscale to Submeososcale
- Line 29:”.. (UGs) and autonomous underwater vehicles (AUVs)..” In line 60 AUV is defined as autonomous unmanned vehicle. The international community uses autonomous underwater vehicles. Please change in the manuscript when necessary.
- Line 31: “...9-year high resolution dataset...”
- Line 32: “...(SCS) that can be ..”
- Line 33-35: It’s confusing because first you say 9UGs and 2AUVs and then 50 UGs and 2 AUVs. We suggest changing the sentence to: “ In total, 11 cruise experiments were conducted, deploying 50UGs and 2 AUVs with spatial and temporal resolutions of <7km and <6 hours”
- Line 37: What does ”them” refer to? Is it “40% of the data”? If so clarify.
- Line 47: Evolution (in singular)
- Line 50: Change dense observations to high resolution observations
- Line 59: plats to platforms
- Line 60: Change unmanned to underwater.
- Line 61: delete plats
- Line 78: What do you mean by “Attributed to the positively track”? We recommend deleting.
- Line 81: Change dense to high-resolution
- Line 81-82: “UGs adjust their buoyancy and generate gliding motion through the water column using a pair of wings. UGs have been deployed since 2004 (citations..)”

- Line 84: Delete “Many international products of UGs were operated, such as “Seaglider” 84 (Eriksen et al., 2001), “Spray” (Sherman et al., 2001), “Slocum” (Webb et al., 2001), 85 “Deepglider” (Osse and Eriksen, 2007), “SeaExplorer”. UGs’ product companies and 86 related information are listed in Table 2.” The manuscript does not use any of the previous cited gliders. There is no need to present them.
- Line 86 and Table 2. I don’t think that Table 2 adds much to the manuscript as per previous comment. Thus, I would delete Table 2. Add the citation of the “petrel” and “sea wing” UGs in the text on line 106.
- Line 91: Delete “Kinds of” and “GPS”, resulting in: “Sensors, such as, conductivity-temperature-depth-CTD, are installed on the UGs...”.
- Line 94: “2023), or the water mass...”
- Lin2 122: The legend of the figure should mention whether the SLA was averaged over the entire duration of the campaign or are snapshots of the different dates.
- Line 141: Term usually used is altimeter instead of “obstacle avoidance sonar”. Change if you think is appropriate.
- Line 214: Change “related to” to “as per”. We suggest changing the link by a citation.
- Line 242: “In Figure 6, we show an anti-cyclone eddy...”
- Line 256: Change “networks” to “campaigns”.
- Line 262: “MEs”
- Line 270: “The ME follows geostrophic balance, thus the geostrophic velocity could be..”.
- Line 272: Delete “Finally”
- Line 275: “and geostrophic velocity structures...”
- Line 328: Delete “diving”.
- Line 348: change “in Euler field to” “ in Eulerian view”
- Line 370: Change “supports us” to “allow us”
- Line 375: Change turbulences to turbulence
- Line 376: Change “And UGs...” to “Moreover, UGs/AUVs equipped with more...”
- Line 383: change “the it’s difficult...” to “makes it difficult for piloting...”