

Comments from reviewer#2

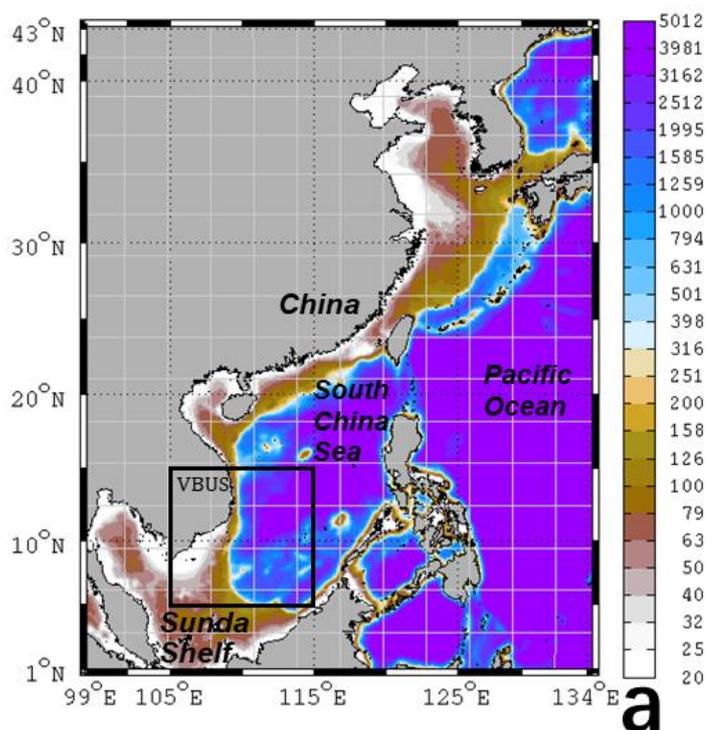
The authors present a study of the physical-biological coupling of the coastal upwelling off Vietnam. They use in situ, remote sensing and model data. The model is validate with the in situ and remote sensing data, which gave some confident to its outputs. The MS is well written and present interesting results, concluding with a schematic interpretation of the processes related to the variability of primary productivity. Thus, it is my opinion that the MS should be accepted after minor revision taking into the account the comments I made directly in the PDF in annex.

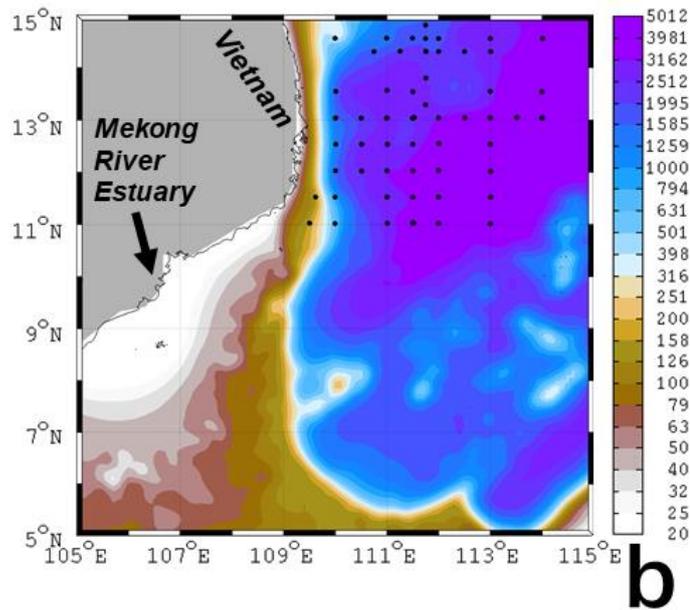
Response: We thank the positive comments and careful editing from the reviewer. Following the comments in the pdf file, we revised the manuscript as listed below.

Line 19: Yes, separation in the manuscript indicates alongshore current separates from the coast. Modified.

Line 22: We use the depth-integrated nitrate concentration, which is the nutrient inventory here. The unit is mmol m^{-2} .

Line 27 : Figure 1 revised as follows. We added several labels of the geographic locations.





Line 32: Thank you for providing these references. Cushing (1969) and Bakun (1996) were added to the citation list.

Line 94: Revised. Now this sentence read: “We use the upwelling intensity (UI) **or the “Bakun index” (Bakun, 1973)** as a proxy to measure the strength of upwelling (Chen et al., 2012; Gruber et al., 2011), following the classical paper of Ekman (1905)...”

Line 108&109 (now in Line 110 and 114): Agree and corrected.

Line 171 (now in Line 181): Agree. This sentence was modified as: “**KE and NPP both present biannually signals in most years**, i.e., peaks in summer and winter, as well as complex non-seasonal signals”

Line 173 (now in Line 183): here “ $p < 0.01$ ” was added.

Line 177 (now in Line 185): Notice that we removed this sentence and replaced it with more relevant discussion.

Line 232 (Line 253): Corrected as “these shortcomings **could be** accepted.”

Line 250 (Line 273): Corrected.

Line 315 (Line 358): Now it reads: “As **presented in** the schematic diagram in Fig. 12,”

Line 330: We included the abbreviation in appendix A following Sect. 6. We also removed some unnecessary acronyms to increase the readability.

Fig. 2: The scales for two subplots were the same. However, noting that in Fig. 2a the

nearshore CHL can be as large as 5.0 mg m^{-3} exceeding the color scale, we replaced the color scale with a log2 scale as follows. We also revised the caption following your suggestions. Thank you.

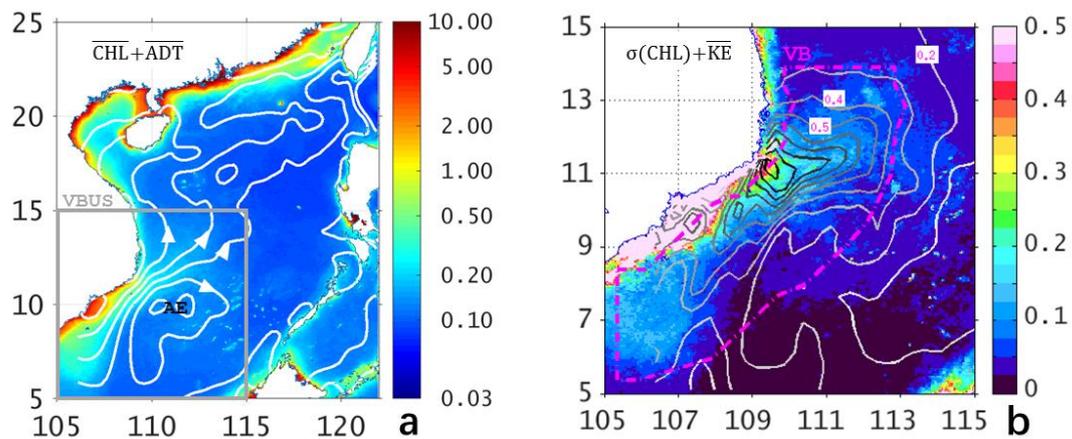


Figure 2 (a) Summertime (MJJAS) average of surface chlorophyll concentration (color shading, unit: mg m^{-3}) from MODIS, overlapped white contours are mean ADT with the arrows showing the directions of geostrophic currents. Gray box is the region of interest (VBUS), while AE shows the center of the anticyclone. (b) **The region of interest:** standard deviation of surface chlorophyll (color shading, unit: mg m^{-3}) overlaid with the contours of surface KE with an interval of 0.1 from 0.1 to 1.0 (unit: $\text{m}^2 \text{ s}^{-2}$). **The magenta dot-dash contour delimits the ocean region over which chlorophyll and KE are averaged (see text).**