In this manuscript, a deep learning model, OI-SwinUnet, is proposed for the reconstruction of remotely sensed chlorophyll products, and the model is used to generate MODIS chlorophyll-a concentration products in the South China Sea (SCS) from 2013 to 2017. The reconstructed products can be used to obtain comprehensive spatiotemporal continuum data in the SCS. Research on deep learning processing techniques for remote sensing data is currently quite popular. The proposed deep learning framework does a very creative job of addressing the crucial issue of missing data. The reconstructed data can be applied in ecological monitoring of small- and mesoscale processes in the ocean, indicating that the authors have accomplished excellent results. I think the paper satisfies the goals and specifications of this journal. Naturally, I have some particular comments that the authors should clarify or revise before the paper is officially accepted.

The first comments is about the input. Why did the author select anomalies for SwinUnet's inputs from the first and last 15 days, respectively? (To put it another way, could this last for three days or a week?)

Secondly, the author's method of demonstrating the model's reconstruction performance under various mask percent settings is commendable, but it appears that the graph's performance findings are not sufficiently clear (see from Fig. 12). Here, two recommendations are made: first, select an alternative reconstruction product at a time when there will be a sufficient difference to support the author's position; and second, include graphs with mask percentages of 30% and 70%, i.e., set the plot step size to 20% to reflect more specific information about the changes.

Thirdly, in my opinion, one of the best parts of this research is the use of reconstructed data in specific instances of mesoscale eddies. A useful database for researching the ecological effects of small- and mesoscale ocean phenomena may be produced if the chlorophyll data reconstructed using OI-SwinUnet, as suggested by the authors, are able to accurately restore the chlorophyll information of the missing regions.

Fourthly, the authors link upwelling to the high chlorophyll values seen along the Vietnamese coast throughout the summer. Have other studies verified that upwelling at

this location results in changes in chlorophyll, and can relevant literature be shown to bolster the authors' claims?

Other minor comments：

1. Is the "satellite-derived" in the x-axis of Fig.7 extracted from aqua or terra, or is the data merged from two sensors? please clarify this.
2. The better background color of Fig. 1, 2, 3, 4, 16, and 17 is white.
3. It is recommended that Fig. 10's colormap be changed to something other to make it more clear, such as jet.
4. Fig. 16a is rough and it should be improved. The below figure in Fig. 16a shows too little information.