



EGUsphere, referee comment RC2
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Comment on egusphere-2022-31

Anonymous Referee #2

Referee comment on "Upper-ocean response to the passage of tropical cyclones in the Azores region" by Miguel M. Lima et al., EGU sphere,
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Tropical Cyclones are widely studied topic. The authors examine the upper ocean response, i.e., SST and chlorophyll (chl-a) response, to the passage of TC in the Azores Region. They find passage of TC helps to cool the surface ocean, and increase the ocean productivity. Furthermore, they investigate the TC's intensity, moving speeds, impacted areas, on the ocean conditions. On the last part of the paper, the authors used two individual cases to evaluate their results.

I find the manuscript is well-organized and well-written. The finding even though is not exactly new, however, could help the understanding of TCs' impact on the Azores Region. Therefore, I recommend a major revision.

I only have two major comments:

1. The study compared the condition of SST and chlorophyll (chl-a) before and after the passage of TCs. TC has its own life time which experiences increase and decrease of intensity, moving speed, impact area, and also has its own track. When you compare the passage of TC, do you use the data from all the impacted area, or just individually one grid box from the TC's track? Or more specifically, in Fig. 2, does the area of 'Cyclone passes over the area' represent one grid box of data, or the entire impact area of a signal TC.

2. How is the impact area of ocean defined?

The above information will largely impact on the final results, should be clarified clearly.

Minor Comments:

Caption of Fig. 4, TC induced anomalies of (a) total chl-a and (b) SST.