



EGUsphere, referee comment RC1  
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## Comment on egusphere-2022-1245

Anonymous Referee #1

Referee comment on "Joint observation-model mixed-layer heat and salt budgets in the eastern tropical Atlantic" by Roy Dorgeless Ngakala et al., EGU Sphere, <https://doi.org/10.5194/egusphere-2022-1245>, 2022

We thank the anonymous reviewer for this constructive comment to improve our manuscript. Below, we have tried to provide response (blue text) to the reviewer's comment (black text), and we hope that the revised manuscript will satisfy the reviewer.

This version of the paper is improved over the original submission. I have only one minor comment that the authors should address, which is, in line 137, describe in briefly what Holte and Talley method of computing mixed layer depth is rather than require the reader to find the Holte and Talley and read about it there.

Response:

As recommended by the reviewer, we briefly described this method from line 138 in the revised manuscript as follows: **“For individual ocean profiles, this hybrid method models the general shape of each profile, searches for physical features in the profile, and calculates the MLD by using threshold and gradient methods to form a suite of possible MLD 140 values. Then it analyzes the patterns associated with this formed suite in order to select a final MLD estimate.”** (see lines 138-140 “page 5”).