Review of the paper entitled The global ocean mixed layer depth derived from an energy approach

I thank the authors for responding accurately to my questions and for extensively editing the manuscript. I realize that it was a huge but necessary effort to ultimately produce a much clearer and more convincing version. I suggest to the autors to turn off the "trackchange" mode to have a manuscript that is easier to read. In this final form, I accept the article for publication.

Lines 983-1002 : I appreciated this discussion. You mention that the EBM-MLD intrinsically depends on the $\Delta\overline{\rho^{\theta}}$ threshold, which may negatively influence its performance. I am wondering how to overcome this threshold. Following Equation 8, if you impose $WB = 0$ (or WB small), then $\rho(h) = \overline{\rho}$. In that way, we can construct the following iterative process to obtain the MLD h :

$$h^{n+1} = \eta - \frac{1}{\rho(h^n)} \int_{h^n}^{\eta} \rho(z) dz \qquad \text{where } n \text{ is the iteration} \tag{1}$$

h is defined when $|h^{n+1} - h^n| \leq \epsilon$ where ϵ is your convergence criteria.

1 Minor Points

- Line 163 : Replace the lower bound of the integral z_{ref} by z_{eq} in Equation 3.

  Line 194 : Replace "the time integral of the buoyancy flux" by "the time integral of the surface buoyancy flux"