

Geosci. Model Dev. Discuss., referee comment RC1  
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## **Comment on gmd-2020-437**

Anonymous Referee #1

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Referee comment on "Integrating CVMix into GOTM (v6.0): A consistent framework for testing, comparing, and applying ocean mixing schemes" by Qing Li et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2020-437-RC1>, 2021

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I found this paper to be well-written, easy-to-read, and extremely informative. The background sections explain what experiments are being run and why, and the experiments themselves are quite thorough. Incorporating CVMix in GOTM is a novel approach to modeling vertical mixing that will hopefully be a boon to the rest of the community. The paper provides enough details for others to repeat the experiments on their own, and I agree with how the authors interpret the results.

The only small quibble I have is with the sentence beginning on line 184 (in section 3.1): "KPP-CVMix predicts an enhanced turbulent viscosity than GLS-C01A..."; "predicts an enhanced turbulent viscosity than" is a klunky phrasing. I'd recommend "predicts more enhanced turbulent viscosity", but there are probably other ways to clean up that sentence as well.