

## **Inertial wave induced mixing in the tropical Atlantic: observations, parameterizations and impacts**

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The strength of inertial wave induced mixing is estimated from the PIRATA array in the tropical Atlantic, and its impact is parameterized in the two different mixed layer models of CESM and NorESM. Despite the differences in their mixed layer models, the climate response is quite similar in both models: a northward shift of the Atlantic ITCZ, which represents a significant improvement for both models. A surprising challenge, however, is the exact quantification of the mixing: it turns out that most of the mixing is done during a few short events, which makes for rather poor statistics even with record lengths of several years. Based on our experience we provide some strategies with which future observational campaigns can improve our understanding of inertial wave induced mixing.