

Comments on the paper „Estimation of oceanic sub-surface mixing under a severe cyclonic storm using a coupled atmosphere-ocean-wave model”

General comments

The authors investigate the effects of sub-surface mixing in the ocean under severe storm conditions. The introduction and the reference give the impression that the authors know very well the relevant publication and the overview they give is very nice. To my understanding the novel approach of the article is the use of a coupled atmosphere-ocean-wave model to investigate to simulate the atmospheric and oceanic properties on a very fine scale. The focus is on the generation, propagation and dissipation of kinetic energy in the ocean.

The review improved the paper a lot although some things still have to be corrected.

In detail:

Please avoid capital letters when it is not a special name. And it would be nicer if a native speaker would have checked the language.

I 76: kinetic energy

I 80: The NIO is found to decline

I94: “discussed” is better than “accessed”.

L 148: ~~the~~ Phailin

L 164: grid-scale

L170: “starching” parameter. This is a major error. There is no such thing as a starching parameter. Please read the model manual again and correct this word!

I 239: stand-alone and coupled WRF

I241: simulated a larger pressure drop

Figure 4: Did you discuss the high frequency variability which can be seen in the figures somewhere? Why are both model configurations not able to reproduce this feature?

L 246ff: Please mention first what the top level boundary conditions in the stand alone ROMS simulation are, so it is nicer for the reader to understand what is going on. And what about a reanalysis driven simulation? Might be that the SST would also be represented well by the ocean model then.

L 410: of the severe cyclonic storm

Fig 7: hard to see the lines against the dark colours.