



Temporal variability of Diapycnal Mixing in the Cape Ghir upwelling region.

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Our main objective is to analyse the temporal variability of diapycnal mixing in the Cape Ghir oceanic upwelling region using data from ATLANTIC-IBERIAN BISCAY IRISH- OCEAN PHYSICS REANALYSIS MODEL and in situ data from cruises. For this study, we used the PROMECA cruise CTD-ADCP data that was carried out from 18th to 29th October 2010 onboard the R/V García del Cid.

The processes analysed were mixing processes by double diffusion and by diapycnal shear instability using appropriate parameterizations with the density ratio and the gradient Richardson number.

The comparison between model and in situ data allowed us to estimate the degree of uncertainty of model data for these mixing processes. With the model data we could identify which are the most significant temporal frequencies of variation for the period: 1992-2016 present in the different water masses of the region, both central and intermediate.

It is known that North Atlantic Oscillation (NAO) affects the magnitude of the trade winds that are the responsible of the presence of the Northwest African coastal upwelling region. For this reason, the interannual temporal frequencies found in the study are very relevant.

The understanding of temporal variations of mixing processes in different temporal scales help us to improve our knowledge on the evolution of ocean systems such as upwelling systems.

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