



Poleward flows in the Western Iberian Margin: interannual variability on a 20 yr high resolution simulation

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We study the poleward slope currents on the Western Iberian Margin. This region has a strong seasonal variability with upwelling in the summer and strong poleward upper slope flows in the winter. The poleward flows present a strong inter-annual variability as was described in previous studies based on satellite sea surface temperature and sporadic hydrological surveys. We address this problem from a dynamical point of view.

We make a description of the variability of the poleward flows in the seasonal and inter-annual time scales, using a realistic simulation of the Regional Ocean Modeling System at 2.3 km, from 1989 to 2008, covering the whole Western Iberian Margin and with an explicit representation of the inflow/outflow at the Strait of Gibraltar in a nested grid system. The model results were compared with satellite data.

We compute the depth-averaged vorticity balances. The results show that the variability is forced by a complex interaction between the various forcing terms. The model reproduces the years of warm anomalies in December/January, but these are not necessarily years of strong poleward flows.