



## **What drives the seasonality of the slope currents in the Bay of Biscay?**

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Observations of the circulation in the Bay of Biscay and off the Iberian Peninsula (North-Eastern Atlantic) evidence a strong seasonality of the flow within the upper 1500 m. In particular, the slope currents are seen to reverse seasonally. A fine-resolution regional model of this area has been developed, and is able to reproduce the observed circulation and seasonal variability in a satisfactory way. The physical mechanisms driving the seasonal reversals of the slope currents are investigated in this numerical model by applying increasingly complex forcings at the lateral and surface boundaries. The behavior of the numerical model is then compared with that of an analytical model in which a slope current is driven by an alongshore wind forcing and a large-scale density gradient. The joint analysis of both models enables to link the seasonality of the flow to the seasonally-varying relative contributions of the large-scale density gradient and the alongshore wind forcing.