



## **Wi and NAO in regional climate model's experiments**

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The Westerly index (WI) is based on the persistence of westerly winds over the English Channel (Barriopedro et al, 2013). It can be estimated from historical data (logbooks), permitting the reconstruction along the last 400 years. It has been demonstrated that anomalous WI values are associated to spatially coherent climatic signals. In addition, It presents a good correlation with the NAO index, however this relationship is not stationary, appearing some periods of uncoupling between them.

In this work it is shown several aspects related to the WI in regional climate experiments covering the last millennium. Firstly the regional experiments are able to represent the climate anomalies related to the evolution of WI. On the other hand, the decoupling between NAO and WI is also reproduced by the Regional Climate Model (RCM). The physical consistency of the data, as well as all climatic variables provided by the RCM permit to analyse deeply the reasons of this uncoupling. And finally, the analysis of various experiments sharing the same forcing permit us also to study if there is any relation between the uncoupling and the solar and volcano forcings.