



## **Impact of North Atlantic atmospheric climate modes on Mediterranean sea level: projections for the 21st century**

Adrián Martínez-Asensio, Marta Marcos, and Damià Gomis  
IMEDEA (UIB-CSIC), Spain (adrian.martinez@uib.es)

The outputs of the numerical models made available by the Coupled Model Intercomparison Project (CMIP3 and CMIP5) have been used to investigate the evolution of the major atmospheric climate modes in the North Atlantic, namely, the North Atlantic Oscillation (NAO), the East Atlantic pattern (EA), the East Atlantic Western Russian pattern (EA/WR) and the Scandinavian pattern (SCAN) during the XXI century. The aim is to estimate their projected impacts on Mediterranean sea level and its different components, provided that the relationships of each atmospheric pattern with sea level have already been established for the present climate. In particular, it is known that the North Atlantic climate modes strongly influence the barotropic contribution to Mediterranean sea level, through local and remote changes in the atmospheric pressure; thermosteric sea level is affected as well by variations in the atmospheric circulation. These contributions will be evaluated in the future projections.