



## **Sensitivity of climatic patterns in Europe to changes in coastal line and orography**

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The role of the regional orography in the formation of teleconnection patterns dominating the climate of Europe is examined through a series of numerical experiments. The focus is put on the North Atlantic Oscillation (NAO) and East Atlantic/West Russia (EAWR) pattern. These patterns are first identified on the basis of ERA-40 data analysis. An atmospheric component of an earth-system model of intermediate complexity - Planet Simulator, is used to simulate several 40-years long situations with different orography. Changes in the orography in the individual sensitivity experiments have been specified in the region between the Minor Asia and Alps. These changes modify climatic patterns not only locally, but also over areas far from the artificial land (mountain) obstacle. The results presented reveal that the orography in the studied region has a crucial role in the control of regional climatic patterns, in particular that of the EAWR.