



## **Regional climate change over the Iberian Peninsula: warming patterns and spatial and seasonal asymmetries.**

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The Iberian Peninsula (IP) has been identified as one of the hot spots. In this work we present the main patterns of regional warming over the IP as simulated by a Regional Climate Model for the SRESA2 and SRESB2 scenarios.

Three centennial simulations have been carried out using ECHO-g outputs as driving conditions. MA2 and MB2 denote the runs performed for the SRESA2 and SRESB2 (1991-2100) scenarios respectively and MCO denotes the 1900-1990 run. The simulations have been performed using a climate version of the regional atmospheric model MM5, over two two-way nested domains with resolutions of 90 and 30 km. The inner domain covers the full IP.

In order to obtain the projected changes in mean, maximum and minimum temperature for MA2 and MB2, the differences between several 30 year periods in the future and a reference period (MCO, 1960-1990) were calculated.

The obtained results indicate that the projected warming is much more intense during Summer, reaching in the MA2 until 6 degrees, than in winter when maximum projected changes are as much 2 degrees.

On the other hand, the warming patterns also have an important seasonal signal. In winter, the obtained warming pattern is highly correlated to the orography being the highest places the more affected by the regional warming, while in summer the pat-

terns are mainly related to the continentality, i.e. the inner areas are warmer.

In addition, the experiments shown strong differences between the behavior of maximum and minimum temperatures. The increase of the maximum ones is larger than the minimum ones and this occurs for all seasons. An interesting feature of the maximum and minimum temperature warming patterns is that they are not coincident.

The results of MA2 and MB2 are quite similar, being the main difference the amplitude of the projected changes.