



## **Application of NN for improve extremal temperature forecasts over catalonia.**

**Jordi Mercader, J.R Miró, Abdelmalik Sairouni, Jordi Toda, Jordi Cunillera**

Meteorological Service of Catalonia, Barcelona, Spain

The extremal temperature forecasts in Catalonia is a complicated task, due to complexity of his orography. With the objective to improve the operative temperature forecasts at Catalan Meteorological Service, we have used the temperature forecasts of the MASS mesocale model, with a resolution of 15km. This data was interpolated to county capitals of Catalonia and postprocessed by a neural network.

We have used neural networks because several authors have shown that, in most cases, they perform better than other statistical methods when they are used for non-linear processes. In our work, to take into account the geographical features of each city, as well as the distinct behavior of temperatures in function of their extremal character (maximal or minimal) and the season, we have trained a different network for each combination of city, season and extremal temperature.