Behind the limited seasonal predictability of surface temperature over the Iberian Peninsula derived from GCMs.

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Previous studies developed to estimate the temperature over the Iberian Peninsula using a combination of statistical downscaling methods plus a multimodel ensemble system have shown a limited predictability over this area. The seasonal predictability is even more limited in long-lead predictions when trying to predict beyond the first month of the simulations. In this study, the role that the information from the general circulation models (GCMs) considered is playing on the low predictability is analysed.

The study is focused on the sea level pressure field over the North Atlantic area considered as predictor to estimate the temperature over the Iberian Peninsula. Reproducibility and anomaly correlation coefficient are the statistics considered to analyse the quality of the large–scale predictor provided by the DEMETER project. These statistics allow to evaluate the internal variability of the ensemble and their spatial correlation with the observations.

The results derived from this study are compared with the values obtained from a different area located over the Pacific Ocean. Over this region there is a noticeable improvement with respect to the values from the North Atlantic region. The spread of the models over the tropics is noticeably lower than over the North Atlantic area therefore, the predictability is higher than in mid-latitudes. In particular, the agreement among models clearly increases during El Niño events, especially during strong events.

The different results indicate the main role that the ocean plays in lower latitudes showing a much higher predictability than over extratropical Atlantic. In this be-

haviour, the ENSO events are probably playing a major role in this predictability.