

Physicists of the University of Granada develop a climate prediction project in Europe

2004-01-26 00:00:00

The last project presented by the group Atmosphere Physics, directed by Prof. Yolanda Castro Díez, counts on the explicit support of important electric companies like Endesa, Iberdrola and Unión Fenosa. In Spain, between 10% and 30% electricity is extracted from water resources. For that reason, it is very important for the hydroelectric sector to collaborate with the only Spanish team whose projects approach prediction, one season in advance, of rainfalls and temperatures in Europe.

In order to do it, they use a mathematical method, singular spectral analysis, that allows to associate temperature variations of the surface of the North Atlantic sea with continental climate parameters. Data have been provided by the National Institute of Meteorology and its counterpart in the United Kingdom which, together to the IRI (the centre for climate prediction of the United States), are the two great international references in the subject.

Among the projects for the future, it is the starting of a web page from which the results of the seasonal climate predictions for the different Spanish regions will be spread. "It would be a success to reach a percentage rate of predictions between 60% and 70%", Antonio David Pozo, codirector of the last doctoral thesis of this research group, points out. Researcher Sonia Raquel Gámiz has studied the interaction between the Atlantic ocean and the NAO pattern (North Atlantic Oscillation), which is the atmosphere variability mode that most affects Europe.

Temperature rise

The results of these works confirm other studies' parameters regarding climatic change in the long term. This is, a constant increase in temperatures in Europa, with a rise in rainfalls in the centre and north on the continent and a reduction on them in the Iberian Peninsula.

As well as knowing water resources for a certain population in advance, other of the most interesting applications of these works is farming. North Brasil and Australia are the territories that most use this seasonal prediction application, due to its special climatic features. "It is not easy to generalize. Predictions depend to a great extent on the zone we are refering to", Yolanda Castro explains.

With the aim of going deeply into this research line, this scientific group grupo of the UGR intends to improve the statistical prediction model, incorporating other factors, in addition to temperatures of the surface of the North Atlantic. Thus, ENSO, popularly known as El Niño, a variability mode that affects global climate and originates in thermic variations in the Pacific Ocean.

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