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Assessing changes in precipitation and temperature over the Iberian Peninsula during the 21st century

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Climate is a major factor driving the spatio-temporal distribution of most ecological systems and human activities, due to their vulnerability to inter-annual climate variability and to climate change. These systems are very sensitive to changes in traditional patterns of regional climate but also to the frequency and magnitude of extreme events.
Changes in surface air temperature extremes and precipitation over the Iberian Peninsula were investigated using one of the high resolution climate simulations produced by the Euro-Cordex consortium. Two sets of simulations forced with the new IPCC AR5 emission scenarios RCP4.5 and RCP8.5, with a horizontal resolution of 12.5 km were used to compute climate indices defined by the European Climate Assessment (ECA) project, for present (1970-2010) and for the 21st century climates.
Changes in magnitude and in the spatial patterns of these indices were evaluated and once the expected impacts in different sectors are related with these changes, the results provide information to be used in sectoral adaption measures, namely in tourism, water, agriculture, human health, energy and infrastructures.