Vulnerability of wheat productivity in Spain to extreme climate indices

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Climate change is one of the major risk for agriculture and it has been reported that statistical values of droughts and temperatures are changing over the Iberian Peninsula. Therefore, we consider of great interest to show results about the potential impacts of temperature, precipitation and extreme climate indices on wheat yield in Spain. First, extreme climate indices derived from daily maximum, minimum temperatures and precipitation are obtained by using E-OBS data over the Iberian Peninsula. Second, we evaluate the relationships between climate indices and wheat productivity. The effects of climate variations on observed wheat is characterized by a model derived from Partial Least Square regression method. This approach is expected to be useful for predicting the impact of climate change on the yield and could be applied for other climate scenarios to learn about the changes in mean and variability of the wheat.