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Preliminary analysis of extreme events in the region of Medina Del Campo (Spain) through machine learning

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Within the framework of the European project NAIAD, the case of Medina del Campo (Duero River Basin) provides a case of interest in the analysis of the prevention of damages caused by the effect of climate change. Medina del Campo is located in asemi-arid climate area with recurrent droughts and less frequent flash floods. In this work, machine learning tools are used for preliminary identification of extreme events such as droughts, floods, heat waves and cold waves. The magnitude and frequency of extreme events is one of the consequences of the increase in variability brought about by climate change. This paper presents this methodology applied to the analysis of climatic data of the longest historical series available using variables such as precipitation and temperature. The results are useful for the identification of this type of phenomena, allowing to analyze its historical recurrence and climatic variability. These results provide an additional knowledge base for water management and associated climate risks.