



## **Climate change impacts on precipitation, soil moisture and floods over a mediterranean catchment**

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Northern mediterranean meso-scale river catchments are submitted to extremes floods events linked to intense convective precipitation and local hydrologic features. The Mediterranean region is known to be one of the most affected areas by global warming, and it is likely that changes can be expected in the hydrological cycle. The aim of this study is to assess the climate change impacts on extreme precipitation events using a so-called “futurization” method, in which a transfer function is built by comparing the quantiles of distribution for both present and future climate precipitation. The climate change impact on extreme precipitation events is assessed over high resolution EuroCORDEX and MedCORDEX simulations. The focus is on the Orbieu catchment located in southwestern France. The futurization method is applied to six major events of precipitation which trigger flash floods. The hydrological impacts of those future statistical counterpart precipitation events are therefore assessed through an event-based hydrological model. Finally, a first assessment of soil moisture changes under climate change is performed and incorporated into the hydrological impact quantification.