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Future changes in high-impact events in pan-European convection-permitting projections

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At the UK Met Office we have recently completed climate change simulations at convection-permitting resolution (2.2km grid scale) across a pan-European domain, which are feeding into the CORDEX-FPS and European Climate Prediction System (EUCP) projects. At such high resolution, the model gives a much better representation of convection and is able to capture hourly precipitation characteristics, including extremes, as well as better representing the influence of mountains, coastlines and cities. In this talk, I will present results from these new convection-permitting climate simulations, looking at future changes in high impact events, including hourly precipitation extremes and severe winds. I will also discuss remaining outstanding issues, such as the deficiencies in land-surface-atmosphere coupling, and work underway to try and address these.