

Statistical modelling of spatial extremes using the SpatialExtremes package

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Extreme value theory has been extensively used for risk assessment associated to natural hazards such as extreme precipitations/snowfall, heatwaves or sea levels...Often such environmental processes are intrinsically spatial but observed at a finite number of weather stations. In this workshop we will see how one can apply the extreme value theory to such situations using the dedicated R package **SpatialExtremes**. We will mainly focus on max-stable processes, but if possible, other approaches might be discussed as well. The main goal of this talk is to introduce the major theoretical key concepts from a practitioner perspective. At the end of this talk, it is hoped that one should be able to conduct a complete statistical modelling of spatial extremes and to know what are the current limitations/difficulties of the software.

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