

On spatial extremes: with application to a rainfall problem

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Abstract

We consider daily rainfall observations at 32 stations in the province of North Holland (The Netherlands) during 30 years. Let Q be the *total* rainfall in this area on one day. An important question is: what is the amount of rainfall Q that is exceeded once in 100 years? This is clearly a problem belonging to extreme value theory. Also it is a genuinely spatial problem.

Recently, a theory of extremes of continuous stochastic processes has been developed. Using the ideas of that theory and much computer power (simulations) we have been able to come up with a reasonable answer to the question above.