

EGU2020-2625

<https://doi.org/10.5194/egusphere-egu2020-2625>

EGU General Assembly 2020

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## Aggregation of Spatial Extremes

**Jordan Richards** and Jonathan Tawn

Lancaster University, STOR-i, United Kingdom of Great Britain and Northern Ireland (j.flett@lancaster.ac.uk)

Fluvial flooding is caused by excessive rainfall sustained over extended periods of time and over spatial catchment areas. Although methodology for modelling excessive, or extreme, rainfall events is extensive and well researched, the same cannot be said about how the extremal properties of spatial and temporal aggregations of rainfall are related. We hope to rectify this by developing a methodology for modelling extremes at different spatio-temporal scales and which incorporates a wide range of dependence structures.

Research on modelling aggregated spatial extremes is ongoing, but here we present some interesting first-order behavior for the tails of aggregates of (dependent) variables. Marginally these variables are assumed to have GPD tails and we focus on exploring how properties of the dependence structure influence the tail properties of the aggregate. The implications of our theoretical results for statistical purposes will be discussed.