UNIVERSITY OF SYDNEY

SCHOOL OF MATHEMATICS AND STATISTICS

Statistics Seminar

Friday, 31 March, 2.00pm

Eastern Avenue Lecture Theater

Multivariate generalised Pareto distributions

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Abstract

A recent approach for modelling extreme events is based on so called peak over threshold methods. The generalised Pareto distribution (GPD) is widely used for modelling exceedances of a random variable over a high threshold and it has shown to be one of the best ways to apply extreme value theory in practice. In this paper we give a multivariate analogue of the GPD and consider estimation of parameters in some specific bivariate generalised Pareto distributions (BGPD's). We generalise two of existing bivariate extreme value distributions and study maximum likelihood estimation of parameters in the corresponding BGPD's. The procedure is illustrated with an application to a bivariate series of wind data. The behaviour of maximum likelihood estimators of parameters is also studied in a small simulation.

Enquiries about the Statistics Seminar should be directed to
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