

In this thesis we will elaborate on multivariate extreme value modelling, related practical and theoretical aspects. We will mainly focus on the dependence models, the extreme value copulas in particular. Extreme value copulas effectively unify the univariate extreme value theory and the copula framework itself in a single view. We familiarize ourselves with both of them in the first two chapters. Those chapters present generalized extreme value distribution, generalized Pareto distribution and Archimedean copulas, that are suitable for the multivariate maxima and the threshold exceedances description. These two topics will be addressed in the third chapter in detail. Taking into consideration rather practical focus of this thesis, we examine the methods of data analysis extensively. Furthermore, we will employ these methods in a comprehensive case study, that will aim to reveal the importance of extreme value theory application in the Catastrophe Insurance.