



Extreme risk assessment based on normalized historic loss data

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Natural hazard risk assessment and risk management focuses on the expected loss magnitudes of rare and extreme events. Such large-scale loss events typically comprise all aspects of compound events and accumulate losses from multiple sectors (including knock-on effects). Utilizing Munich Re's NatCatSERVICE direct economic loss data, we briefly recap a novel methodology of peril-specific loss data normalization which improves the stationarity properties of highly non-stationary historic loss data (due to socio-economic growth of assets prone to destructive forces), and perform extreme value analysis (peaks-over-threshold method) to come up with return level estimates of e.g. 100-yr loss event scenarios for various types of perils, globally or per continent, and discuss uncertainty in the results.