[1]黄崇福,郭君,艾福利,等.洪涝灾害风险分析的基本范式及其应用[J].自然灾害学报,2013,04:11-23.

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Title: Basic paradigm of risk analysis in flood disaster and its application

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摘要: 目前,洪涝灾害风险分析的模型名目繁多、参差不齐。提出了洪涝灾害风险分析的基本范式,涉及气象因子和社会因子。进而,将其发展为一个由年降雨量极值概率分布和"年降雨量极值-受灾人口比例"脆弱性曲线组成的应用模型。模型中采用信息分配方法估计概率分布,采用正态信息扩散方法构造脆弱性曲线。将概率分布和脆弱性曲线相乘后进行积分,即可算出研究区域内年度洪涝灾害的风险,其内涵是受灾人口比例的期望值。广东省河源市的案例分析表明,模型简单实用。由于物理背景清楚,风险内涵明确,加之采用的信息扩散技术处理小样本能够提高不完备信息的利用率,从而使风险分析的结果较为可靠。

Abstract: :There are numerous and uneven models to analyze the risk of flood disaster to date. This paper proposes a basic paradigm of the risk analysis involving meteorological factors and social factors and develops it into an application model consisting of a probability distribution of the extreme annual precipitation and a vulnerability curve of "extreme annual precipitation and the proportion of affected population". In the model, probability distribution is estimated using the method of information distribution, and the vulnerability curve is constructed

using the method of normal information diffusion. The annual risk of flood disaster for the study area is then calculated by integrating the product of the distribution and the curve. The intension of the risk is the expected value of proportion of affected population. The analysis of the case of Heyuan City of Guangdong Province shows that, the model is simple and practical. Clear physical background, unambiguous risk intension, and efficient use of the small sample by the information diffusion technique, ensure the reliability of the result of the risk analysis.

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