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## 基于层次分析法的泄洪区选址及模拟分析研究(PDF)

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Title: AHP-based site selection of flood discharge zones and simulation analysis

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关键词: 溃决洪水; 泄洪区选址; 层次分析法; 元胞自动机; 模拟分析

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摘要: 针对具有突发性的溃决洪水,为保护下游重要城镇或设施,对洪水进行分流泄洪,在适当地方建立蓄洪区,可有效减少损失。利用层次分析法,将影响泄洪区选址的各个要素进行分权比较,并结合ArcGIS空间分析能力进行泄洪区的选址研究,然后利用基于元胞自动机框架构建的溃决洪水演进模型进行模拟分析,从而得到泄洪区的淹没效果,通过分析比较,判断泄洪区方案的可行性,为可能的救灾处理提供一定的辅助应急方案。

Abstract: Aiming at eruptive floods and protection of the downstream important cities/towns and facilities, to discharge the flood and construct flood storage zone at appropriate locations is effective means to reduce flood loss. Based on the spatial analysis function in ArcGIS software, this paper first used the analytic hierarchy process (AHP) method to compare impact factors, which may affect the site selection of flood-discharge zones, and then used the numerical model of dam-break flood evolution based on cellular automata framework to implement simulation analysis of different scenarios. Through the analysis and comparison of different flood-discharge schemes, the feasibility of the scheme zone can thus be determined, which may provide certain support to emergency relief treatment plan.

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