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本期目录/Table of Contents
下一篇/Next Article
上一篇/Previous Article

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基于GIS技术的广东省洪涝灾害风险区划(PDF)

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Title: GIS-based risk zoning of flood hazard in Guangdong Province

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关键词: 地理信息系统; 洪涝灾害; 风险分区; 广东省

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摘要: 洪涝灾害风险区划是洪灾评估与管理的重要内容.运用自然灾害风险评价的理论和方法,借助GIS平台对广东省进行了洪涝灾害风险区划,以期对该省防灾减灾工作提供科学依据.通过分析洪灾形成的主要因子,选取自然致灾因子危险性、承载体社会经济易损性和抗灾指数3个指标,借助ArcGIS软件分析得到了广东省洪涝灾害危险性分区图、社会易损性分区图和工程防洪能力分区图;最后,按照风险评估理论将3个指标进行叠加后,形成了广东省以县为单元的洪涝灾害综合风险区划图.研究结果表明,最容易发生洪涝灾害的地区集中在河流汇聚的中部和珠江三角洲地区;易损性最高的地区集中在珠江三角洲和潮汕地区;抗灾能力最弱的地区

集中在粤北经济较落后的地区;综合各种因素,珠江三角洲地区虽然处于高危险区上,但因其防洪能力较强,降低了受灾风险;而粤北山区因防洪能力较弱,处于高风险区.评价结果与广东省近几年的情况基本吻合.

Abstract: Zoning of flood risk is of importance for flood risk evaluation and management.The risk regionalization of flood in Guangdong Province was carried out by using geographic information system and risk assessment theory.The discussion on risk assessment indices and risk regionalization was conducted to provide scientific basis of disaster prevention and reduction for Guangdong Province.This paper selects 3 important evaluation indexes correlative to flood risk,including natural disaster-causing factor,vulnerability of disaste-rbearing bodies and flood resistant capability.With the support of ARCGIS,the map of natural hazards zonation,the map of social economic vulnerability zonation,as well asmap of flood control capacity of structures were outlined.Then the comprehensive regionalization of flood was also drawn by overlay ing the three maps.The results show that the highly dangerous areas are distributed in Pearl River Delta and the middle of Guangdong,the high vulnerability areas are distributed in Pearl River Delta and Chaoshan area,and the high flood control capacity is distributed in Pearl River Delta,and there are high flood