

[1]陈海燕,杨诗芳,许浩恩,等.基于GIS的精细化暴雨致灾预警指标研究[J].自然灾害学报,2013,02:136-143.

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基于GIS的精细化暴雨致灾预警指标研究(PDF)

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Title: GIS-based high-resolution early warning index of rainstorm disaster

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摘要: 根据浙江省62个县气象站1971~2008年降水资料、各县1983~2008年灾情资料、地理地貌和社会经济背景资料,利用优势分析、两纬图论聚类、数据包络分析、聚类分析、层次分析等方法,分析了各地地理地貌、社会经济背景等情况,将浙江划分为五个区域;继而分析各区暴雨致灾因子、地理地貌、社会经济条件与暴雨成灾的关系,建立精细化的暴雨致灾预警模型,分区域划分1~5级暴雨致灾预警等级。研究表明,"1级"暴雨可能带来人员伤亡和严重财产损失,造成特重灾情,"2级"暴雨可能带来严重危害,"3级"暴雨则有可能发生较重灾害,"4级"暴雨可带来轻度损失,"5级"暴雨基本不成灾。通过检验,暴雨致灾预警等级与实际灾情较吻合,可以在暴雨灾害等级预报和灾后评价中应用。

Abstract: With data of precipitation from 1971 to 2008 in local weather stations, and disaster data, geographical landscape and socio-economic background from 1983 to 2008 of 62 counties in Zhejiang Province, we performed dominance analysis methods, two weft graphics cluster, data envelop analysis, cluster analysis and hierarchy analysis, etc, to divide Zhejiang Province into five geographical districts based on these data, and then analyzed the relationship between the rainstorm disaster and hazard factors, geographical landscape, socio-economic background. The high-resolution assessment model of rainstorm-causing disaster intensity was established on the basis of the analyses, and the early warning index was calculated through the model. The early warning index of rainstorm-causing disaster of each geographical district is divided into 5 grades, with Grade 1 the highest. It is defined that Grade 1 are those that cause casualties and serious

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property losses which may lead to ultra-serious disaster; Grade 2 are those that cause very serious disasters; Grade 3 are those that likely cause severe damage; Grade 4 are for minor damage, and Grade 5 corresponds to no disasters. Tests show that the early warning index of rainstorm-causing disaster can reflect the actual disaster situations, and it can be applied to rainstorm disaster grade forecasting and disaster assessment.

参考文献/REFERENCES

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