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基于GIS技术及模糊物元分析法的南京市仙林新市区生态安全评价

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Eco-Securith Assessment of Xianlin New Urban District of Nanjing,China,Using GIS Technology and Fuzzy Matter Element Analysis

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摘要 运用压力－状态－响应模型和层次分析法构建生态安全评价指标体系，综合运用GIS技术及模糊物元分析方法对南京市仙林新市区建设前后（2003和2007年）的生态安全状况进行评价。结果表明，2003－2007年，仙林生态安全状况主要向2个方向发展，生态安全和不安全区域面积均有所增加，占区域总面积比例分别由9.6%和12.9%增加至22.3%和15.0%。由于各区域发展模式不同，生态安全状况区域差异明显。具体表现为仙鹤片区与白象片区生态安全区域面积明显增加，占研究区总面就比例分别由2.6%和3.9%增加至10.1%和9.3%；麒麟片区生态安全状况以临界安全为主，部分片区由临界安全状态向较安全状态转化；青龙片区生态安全状况变化不大。

关键词： GIS 生态安全 模糊物元分析 压力－状态－响应模型

Abstract： An eco-security assessment index system was established,using a pressure-state-response(P-S-R)model and the analytic hierarchy process,while eco-security levels of Xianlin District before (2003) and after (2007) its construction were assessed using the GIS technology and the fuzzy matter element analysis method in a comprehensive way.The ecological security in the Xianlin New Urban District in Nanjing was evaluated.It was found that the ecological security level of Xianlin developed in two directions.The areas of both the eco-safe zone and the eco-unsafe zone increased with their proportion did from 9.6% to 22.3%,and from 12.9% to 15.0%,respectively,in the period of 2003-2007.The Qilin Subdistrict was almost at the threshold of eco-security and some others were developing from the threshold status to relatively safe one.The Qinglong Subdistrict remained almost unchanged.

Keywords： GIS ecological security fuzzy matter-element analysis pressure-state-response model(P-S-R)

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