

基于CLUE-S模型验证的海岸围垦区景观驱动因子贡献率

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Contribution rates of landscape driving factors in coastal reclamation zone based on CLUE-S model validation.

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摘要 基于1990、2000、2009年TM影像、社会统计数据、野外调查数据,采用冗余分析和主成分分析方法对长江口奉贤围垦区海岸带景观动态变化驱动力因子的贡献度进行分析,并利用Kappa指数对CLUE-S模型所选驱动力模拟效力进行验证.结果表明:海岸带围垦区景观动态变化的人为驱动因子贡献度(57.1%)大于自然驱动因子贡献度(42.9%).CLUE-S模型模拟的正确率达82%,研究区主要景观类型(耕地、未利用地和养殖塘)的Kappa指数均大于0.75,CLUE-S模型的模拟效果较理想,所选驱动力因子很好地模拟了规则景观突变的空间分布特征.

关键词: 景观动态 主成分分析 驱动力贡献率 CLUE-S模型模拟

Abstract: Based on the TM images, social-economic data, and field investigation data in 1990, 2000, and 2009, and by adopting redundancy analysis (RDA) and principal component analysis (PCA), this paper analyzed the contribution rates of landscape driving forces in coastal area of Fengxian reclamation zone at Yangtze Estuary. Kappa index was used to validate the simulation effectiveness of CLUE-S model. In the study area, anthropogenic landscape driving factors had a higher contribution rate than natural landscape driving factors (57.1% vs. 42.9%). The prediction accuracy rate of CLUE-S model was above 82%, the Kappa index of the main landscape types (farm land, unutilized land, and breeding ponds) was greater than 0.75, the simulation results were acceptable, and the landscape driving forces selected could better simulate the spatial distribution patterns of the abrupt transformation of the main landscape types.

Key words: landscape dynamics principal component analysis (PCA) contribution rate of driving force CLUE-S model simulation

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