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## 永定河下游土地覆盖变化及其驱动力分析 (PDF)

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Title: Analysis of land cover change and its driving force in downstream of Yongding River

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摘要: 以1978年的黑白航片和2008年的彩红外航片为数据源,对永定河下游流域30年来的土地覆盖变化进行了分析。20世纪70年代的航拍数据是全景黑白航空摄影像片,需要对扫描的黑白航片进行匀色处理,然后对匀色处理后的黑白航片及彩红外航片进行排列,镶嵌,配准纠正等数据预处理工作。采用面向对象的分类方法提取永定河下游的土地覆盖类型,并结合专家经验,采用人工判读的方法,对提取结果进行验证。根据永定河下游1978-2008年土地覆盖类型的数量变化特征,说明30年来,耕地、人工湿地、草地和未利用地的面积呈现增大的趋势,其中未利用地面积增大得最快,单一动态度高达218%。自然湿地和林地的面积则呈减少的趋势,自然湿地面积减少的幅度较为明显。利用转移矩阵对永定河下游土地覆盖类型之间的相互转化进行分析表明,主要是自然湿地向耕地和未利用地的转化;耕地和林地之间的相互转化,以及耕地向未利用地的转化。综上分析,自然湿地成为最大的转出源。影响永定河下游土地覆盖变化的驱动力因子分为自然因素和人为因素两种。

Abstract: This paper took the black and white aerial photos in 1978 and the colored infrared aerial photos as the data sources to analyze the land cover changes in Yongding River downstream in the past 30 Years. 1970' s aerial data are panchromatic black-and-white aerial photographs, which need uniform color processing, and then pass through arrangement, mosaic, registration correction and other data preprocessing work. The authors used object-oriented classification method to extract land cover types in downstream of Yongding River, and combined with the experience of experts and artificial interpretation

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to verify the extraction results. According to quantitative change characteristics of land cover type in downstream of Yongding River during 1978-2008, it is shown that farmland, artificial wetland, grassland and unused land areas increased in the thirty years, among which, the unused land increased the fastest, with single dynamic degree as high as 218%. Natural wetland and woodland areas assume the reduced tendency, with natural wetland area reduced more obviously. Analyses of mutual transformation between various land cover types in downstream of Yongding River by transfer matrix show that the main transformations are transformations from natural wetlands to farmlands and unused lands, from farmlands to unused lands, and between farmlands and forests. In conclusion, the natural wetlands are the largest transfer sources. The driving source of the land cover change in downstream of the Yongding River includes natural and human factors.

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