

## THE ANALYSIS ON ENVIRONMENTAL EFFECTS OF LAND USE AND LAND COVER CHANGE IN LIUXI RIVER BASIN OF GUANGZHOU

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### **ABSTRACT**

*This study aims to realize that the relationship between Land Use/ Cover Change (LUCC), human activities, and natural environment in Liuxi River Basin, thus the causes of current ecological problems are analyzed. In this paper, hence, the Landsat 8 Remote Sensing (RS) images of Guangzhou from 2013 to 2021 were collected and processed, then the LUCC maps of 2013, 2019 and 2021 were obtained. Based on the above purpose, the Land Use Transfer Matrix (LUTM) and Land Use Degree Analysis (LUDA) were used for analysis. Final, studies have shown that LUCC in the basin changed significantly from 2013 to 2021, specifically, the construction land increased significantly, with an increase of 7.16 %. LUCC not only changed the natural landscape of the basin, but also affected the four environmental factors, specifically in the atmosphere, water, soil and biology. Based on the analysis this study can provide a reference for the ecological environmental protection of the Liuxi River Basin.*

**KEYWORDS:** *Liuxi River Basin; Land Use/Cover Change (LUCC); Land Use Transfer Matrix (LUTM); Environmental Effect; Guangzhou*