

## TEMPORAL AND SPATIAL CHANGES OF LAND USE LANDSCAPE AND TERRAIN GRADIENT EFFECTS IN URBAN PLANNING AREA OF MAOMING CITY

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### **ABSTRACT**

*This paper mainly uses GIS technology to study the temporal and spatial changes of land use landscape types and the effect of terrain gradient in Maoming urban planning area. The study is based on the land use data of Globeland30 in 2000, 2010 and 2020, using a combination of the index analysis methods of land use landscape transition matrix, the land use dynamic index, the land use degree index, the land use information entropy and the distribution index and so on. The results indicated that among the land use landscape types, farmland area accounted for the most, followed by woodland. On the whole, the land is mainly arable land, woodland and construction land, followed by grassland, water area and other land. This paper also studied the change of terrain gradient effects of elevation, slope, aspect and terrain niche index of land use landscapes. The conclusions can provide references for the study of landscape pattern change, land use planning and land management decision-making in this area.*

**KEYWORDS:** *Land Use; Landscape; Geographic Information System (GIS); Terrain Gradient; Distribution Index*