Analysis of Urban Land Use Changes in Xingtai City from the Year 2000 to 2020 for Urban Development Planning

ABSTRACT

Land use changes as a result of urban development are inevitable. This study is based on three aspects: spatial and temporal land use changes, spatial distribution characteristics, and the state of land resource development today. In this study, the land use status of Xingtai City over the previous 20 years is systematically examined using the global and local Moran's I value, information entropy for land use structures, and land use extent models. The results indicate that, firstly, the built-up land in Xingtai City has rapidly increased while farmland land has continued to decline, with a decrease of 9.93% in farmland and an increase of 84.16% in built-up land. Secondly, the utilisation rate of land resources in Xingtai City has increased annually, as has the l information entropy for land use structures, the extent of land use, and the comprehensive land use dynamic extent index. Qiaoxi District and Qiaodong District have the most significant upward trend. And thirdly, the land use types in the study area exhibit spatial aggregation characteristics, and single land use type cold and hot spots demonstrate spatial clustering.