Spatial Distribution of Chinese Traditional Villages and its Influencing Factors

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Abstract: Chinese Traditional Villages (TV) were selected from millions of villages based on their important historical and cultural heritage value. The distribution of TV characterized by spatial differentiation is subject to complex and diverse influencing factors. This study takes 6819 TV in China (as of the end of 2019) as research objects to analyse the distribution density of TV in different provinces; the spatial autocorrelation module in ArcGIS’ spatial statistical tool was used to analyse the distribution characteristics; a total of 9 factors were selected from the three indicator groups of climate, geography and humanities, and introduced into the clustering and outlier analysis (Anselin Local Moran’s I) module to analyse their spatial relationships with TV distribution. The results show that: 1. The spatial distribution of Chinese TV presents an obvious uneven aggregation state. Among them, the highest distribution density was 10.18 per 10,000 km\(^2\) in Zhejiang province, while less than 0.5 per 10,000 km\(^2\) in Inner Mongolia, Heilongjiang, Tibet and Xinjiang. The Global Moran’s I index of TV distribution is 0.352, and the z-value of normal statistic is 949.76, which has a strong spatial autocorrelation. 2. The distribution of TV is mainly interpreted by humidity index, annual average temperature, elevation, slope, cultural relics, and population. 3. The results of clustering and outlier show that there are significant differences in the effect of the influencing factors on the distribution of TV in different regions. This paper aims to understand the influencing factors that affect the spatial distribution of TV in China and provide more comprehensive research content. This study indicates the importance of further cross-regional analysis of the TV distribution and provides a reference for its environmental management and protective measures and policies.