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The Evolution Characteristics of Urban Ecological Patterns in Parallel Range-Valley Areas, China

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Abstract : As the ecological barrier of the Yangtze River, the ecological security of the Parallel Range-Valley area is very important. However, the unique geomorphic features aggravate the contradiction between man and land, resulting in the encroachment of ecological space. In recent years , relevant researches has focused on the single field of land science, ecology and landscape ecology, and it is difficult to systematically reflect the regularities of distribution and evolution trends of ecological patterns in the process of urban development. Therefore, from the perspective of "Production-Living-Ecological space", using spatial analysis methods such as Remote Sensing (RS) and Geographic Information Systems (GIS), this paper analyzes the evolution characteristics and driving factors of the ecological pattern of mountain towns in the parallel range-valley region from the aspects of land use structure, change rate, transformation relationship, and spatial correlation. It is concluded that the ecological pattern of mountain towns presents a trend from expansion and diffusion to agglomeration, and the dynamic spatial transfer is a trend from artificial transformation to the natural origin, while the driving effect analysis shows the significant characteristics of terrain attraction and construction barrier. Finally, combined with the evolution characteristics and driving mechanism, the evolution modes of "mountain area - concentrated growth", "trough area - diffusion attenuation" and "flat area - concentrated attenuation" are summarized, and the differentiated zoning and stratification ecological planning strategies are proposed here, in order to provide the theoretical basis for the sustainable development of mountain towns in parallel range-valley areas.

Keywords : parallel range-valley, ecological pattern, evolution characteristics, driving factors
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