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# URBAN CULTURAL ECOSYSTEM SERVICES DEMAND ASSESSMENT AND SPATIAL DEPENDENCE RESEARCH: A CASE STUDY OF SHANGHAI SUBURBS

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## Abstract

In the process of urbanization, the demand for urban cultural ecosystem services (CES) is facing rapidly increasing challenges. Based on the ecological structure and social evaluation methods, this study analyzes CES demand in suburban areas with geotagged photo data and provides a basis for the spatial distribution of CES demand. The high-high clusters in suburban area reflected the spatial clustering effect of CES demands. With CES demand as the dependent variable and biological and social and infrastructure indicators as independent variables, the spatial dependence of CES demand is analyzed through geographically weighted regression models and spatial regression models. The fitting results of GWR were better than those of global regression, which proved the influence of geospatial location of explanatory variables on the CES demand. The results found that CES demand has the strongest spatial dependence on infrastructure, indicating that CES supply needs to pay full attention to the construction of supporting infrastructure. The influence of the water bodies and the distance to natural and cultural landscapes on CES demand was reflected in the suburban areas, provides a vital direction for landscape planning and tourism development. The index of population density exerted a significant positive impact on the AS demand and a significant negative impact on the RTS demand. It can be found that the ecological structure, landscape characteristics and population characteristics of urban suburban areas have a great impact on the demand for CES, which has important reference value for improving landscape planning, ecosystem protection and equity of human well-being.

*Key words:* cultural ecosystem services demand, geographic weighted regression, spatial dependence, spatial distribution, spatial regression model

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