Temporal-Spatial Assessment of Water and Soil Conversation Value of Gannan forest in China

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Gannan forest is an important safety barrier in southeast China. In recent years, Ecological engineering such as Natural Forest Protection, Close Hillsides for Forestry and so on have been implemented in this area. But its ecosystem service value is in a decrease. Especially the soil erosion is serious. The analysis on the dynamic trend of water and soil conservation ecosystem service value and its formation mechanism is of big practical and theoretical significance. In our study, land use change is considered as entry point, while land use remote sensing data and spatial statistic data are used as our database. Logistic-CA-Markov complex model is constructed to predict the space-time evolution trend of forest land use under different circumstance. Based on the prediction, water and soil conservation ecosystem service value is evaluated using assessment approaches like shadow project approach and production cost method. Strategies to promote the ecosystem service are then put forward.