

Soil Erosion of Spatiotemporal Distribution Pattern and Factor Analysis on Teh-chi Reservoir watershed under Human-Environment Interactions (1956-2008)

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Abstract

Long-term estimation of soil erosion is important for detecting environmental impact and reflecting human-environment interactions on high mountain reservoir watershed. According to the theories of social science from human ecology to political ecology, social researchers usually focus on household, or communities to attribute the responsibility of disaster causes to human beings whether there are from living style in local scale or political-economy structure in macro-scale. Nevertheless, in vulnerable mountain watershed these natural environment factors are so changing and unstable that hazards and disasters are intensified and bring about more impacts on the local society.

In this paper, we will use USLE, a commonly adopted soil erosion estimation model, as primary tools to analyze the relationship between land use change and environment impacts on the upper mountain reservoir. A long time span remote sensing data will be used to construct a spatiotemporal model to explore the evolution of spatial patterns of disaster distribution from 1956 to 1995.

This research will try to identify the most important factors in the soil erosion and the distribution pattern over the time and space.

Keywords: *human-environment interactions, spatiotemporal distribution pattern, soil erosion*