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Research progress of soil erosion in Pisha stone area of Yellow River

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The soil-covered Pisha stone area is the core source area of coarse sediment in the Yellow River and has become the focal point of ecological control of the Yellow River Basin. It is thus vital to study the spatial distribution of erosion coupling between geomorphology, vegetation, and water in the soil-covered Pisha stone area. Some valuable research results have been obtained already by using high-definition remote sensing aerial photographs and high precision data from unmanned aerial vehicles. In particular, the image resolution obtained by unmanned remote sensing reveals small watershed topographic features and the characteristics of vegetation structure. Thus, the use of remote sensing is vital for research involving the spatial distribution of soil erosion in the slopes of the Pisha stone area and the dynamics of the geomorphic spatial structure of the slopes. In addition, the negative correlation between the spatial structure of the vegetation community and the energy dissipation impedance of erosion requires further study. Research into soil erosion in the Pisha stone area thus represents an urgent scientific need whose outcome will directly affect the theoretical foundation of a comprehensive model for treating soil erosion in this area.