

Impacts of human activities on flood disasters in the Yangtze River basin

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Abstract The Yangtze River basin has abundant natural resources and is developed industrially and economically too, but it also experiences frequent flood disasters, intense human disturbance and a deteriorating water environment. Based on the analysis of the geographical environment and structural conditions of the Yangtze River basin, the process of flood evolution is discussed, and the periodicity and tendency of ancient flood disasters with different degrees of disturbance by human activities are summarized. Through the cases of three typical floods of the entire Yangtze drainage area in the 20th century, the impacts of water resource engineering, land use, soil erosion, the storage capability of lakes, vegetation destruction and urban development on flood disasters are analysed, and the process of flood simulation in the middle and lower reaches of the Yangtze River is discussed. In addition, the flood simulation procedures are concluded by GIS, RS and multi-knowledge intersectional methods.

Key words human activities; flood disaster; flood simulating; the Yangtze River basin
