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Response of vegetation coverage change to Submergence frequency along Lower reaches of large reservoirs ——Jingjiang Reach of Yangtze River as an example

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Due to the construction and operation of major reservoirs, runoff process downstream is largely changed. In order to explore the influences on the vegetation occupation of floodplain, the main floodplains along the middle and lower reaches of the Yangtze River were analyzed and classified by using the water level data and the measured topographic data during 2013-2015. The vegetation changes on the floodplain of Jingjiang Reach area were calculated by using the dimidiate pixel model based on normalized differential vegetation index (NDVI). By means of analyzing the two results, this paper illustrates the situations of vegetation occupation under the influence of reservoir operation in different continents, summarizes the relationship between the quantities of submerged days and vegetation occupation of the floodplain. Strong evidences have proved that flooding time construct great impacts on vegetation coverage on floodplains along Jingjiang Reach. When submersion time is limited in 70 days per year, vegetation occupation increases, otherwise the grow situation get worse for vegetation. Conclusions drew by this article could provide some basis for evaluating the possible increase of resistance caused by high flow flood when flooding those floodplains, therefore this research can explain possible effects that major reservoirs bring to rivers.