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论极端性洪水灾害与全球气候变化——以汉江和渭河洪

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Title: On extreme flood disasters and global climate change:a case study of floodings of Hanjing River and Weihe River

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摘要: 对古洪水、历史洪水及现代洪水的深入研究结果表明:大洪水的发生,并不是在气候湿润时期频率最大,而是在气候转型期,以及气候突变期频率最大。气候由暖湿向冷干转化,或由冷干向暖湿、暖干转化期间,大洪水都会明显增加。气候的异常波动变化导致降水量年内和年际分配不均匀,是造成极端性暴雨洪水及大洪灾频繁发生的主要原因,因此导致大洪水在气候转型期、突变期出现频率高,气候平稳期出现频率较低。在气候转型期,洪水、干旱、寒冻等极端性气候灾害频发,是一种具有普遍性的自然现象。

Abstract: Deep studies on ancient, historic and modern floodings showed that, the highest occurrence rates of heavy floodings are not in the humid climate periods, but in the transitional climate periods and the abrupt climate change periods. The occurrence rates of heavy floodings are increased significantly during the transformation phases from warm-humid to cold-dry, or from cold-dry to warm-humid or to warm-dry climates. The unusual fluctuation changes of climate could lead to non-uniform precipitation distribution during intra-annual and inter-annual intervals, which is a reason for the frequent occurrence of heavy rains and floodings. Therefore, the rates of heavy floodings are higher during climate transition and mutation periods, and lower in climate steady periods. In climate transition period, extreme climate meteorological disasters, such as floodings, droughts, colds and frosts etc., occur more frequently. This is a natural phenomenon with generality.

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