



Changes in the occurrence of extreme river flows

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Changes in the occurrence of river flow extremes have been studied by many authors. However, no conclusive evidence of ubiquitous, and statistically significant, change has been found so far. The existence and direction of changes may depend on the region, season, flood generating mechanism, and the level of "extremality" considered. Several authors report on regional changes in timing of floods in many areas. However, studies of detection of changes in maximum annual flows and peaks over threshold do not report a general and coherent increase. The present study focuses on changes in the occurrence of extreme flows with the return periods of 10-40 years, based on observation records since 1960s. Results for European and continental US rivers are presented, shedding light on the changes in flood hazard.