Urban development and extreme flow regime changes

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Abstract According to the 2007 world demographic revision report of the United Nations, urban areas are expected to absorb 60% of the world’s population by 2030. Developed countries have experienced the effect of urban development on their water resources since the Second World War and today think about alternative techniques and management rules to protect them. Solutions are developed under the scope of the resilience concept to cope with global change effects, i.e. both land-use and climate changes. We deal here with the consequences and the way to get quantitative evidence on how urban development can change flood and low flow regimes. We also address how on-site rainwater retention can help to mitigate such effects. This paper is connected with the paper entitled “Flood risk mitigation using dry reservoirs in a global change perspective” presented by Radojevic et al. (2010b).

Key words urban development; extreme flows, mitigation techniques; France