

**APPLICATION OF STATISTICAL CONFIDENCE INTERVALS
TO THE ESTIMATE OF STORM RUNOFF
IMPACTS DUE TO URBANIZATION**

by

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An important problem in storm water hydrology is the estimation of the change in runoff quantities due to the effect of a change in catchment characteristics, such as urbanization. In arid and semi-arid climates, the impact of urbanization can oftentimes initiate considerable changes to the catchment runoff regime and consequently, the difference in runoff quantities (due to development) is of key importance. In this paper, statistical methods are presented to analyze the confidence level achieved by comparing "pre-developed" versus "post-developed" catchment conditions. Such a statistical application provides an answer as to the confidence level achieved in mitigating for the effects of urbanization in a highly sensitive catchment runoff regime such as typically occurs in arid and semi-arid environments.

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