



## **Application of genetic programming to synthetic unit hydrograph estimation.**

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Genetic programming is an evolutionary technique, which independent domain, which is capable to generate a computer algorithm to realize a specific work through evolutionary process based on a set data collection, it was successfully used to study complex and non linear problems, where the measure and solutions form are not known. To verify Genetic programming capabilities, this methodology was applied to obtain typical expressions of river basin unit hydrograph, using excess precipitation and runoff. To validate obtained expressions, not calibrated flow data are compared with results obtained using precipitation data and hydrograph obtained by mean of resulting expressions and other proposed by any authors about synthetic unit hydrographs. The case of study correspond to a basin located in Colombia. Results show that expressions obtained by application of Genetic programming, become in alternative methods to direct use of unit synthetic hydrograph's method commonly used locally.