

## **Wakeby Distribution for Flood Frequency Analysis. Application to Cauca Region, Colombia**

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**Abstract.** The Wakeby probability distribution function was applied to estimate extreme flood discharges associated to different return periods with a low length data in the Cauca region of Colombia. This distribution has advantages over other probability distributions because its parameters are found using the probability weighted moments that represent in lineal trend the characteristics of the sample. In this paper we describe the procedure to estimate the Wakeby distribution parameters using the probability weighted moments and some goodness of fit tests used to choose which distribution has the best fit. The Wakeby distribution fit is compared with Normal, LogNormal and Gumbel distributions fit; goodness of fit tests and estimations for different return periods are presented. Discussion and conclusions are shown.

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