

**SOME PROPERTIES OF THE GUMBEL'S TYPE I
BIVARIATE EXPONENTIAL DISTRIBUTION
WITH APPLICATION TO RAINFALL DATA**

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- *ABSTRACT: Bivariate exponential distributions have been used successfully on modeling hydrological processes. In this work, supposing that X and Y follow the Gumbel's type I bivariate exponential model, we deduce the exact distributions of the functions $U=X+Y$, $P=XY$ and $Q=X/(X+Y)$, as well as their respective moments. The results are applied to the data analysis of rainfall occurred in cities in the state of Sergipe.*
- *KEYWORDS: Gumbel's type I bivariate exponential distribution; Sum of random variables; Product of random variables; Ratio of random variables; Moments; Hydrological modeling..*

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