

## Rainfall Modelling Using the Sum of Independent Gamma Variables

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### **Abstract**

In this study, we use the sum of independent gamma random variables to model seasonal rainfall as a sum of monthly rainfalls provided the independence assumption is reasonable. A case study is presented and it is shown that the distribution models the sum of monthly rainfall amounts patterns well. The model can be applied to generate synthetic sum of rainfall amounts.

**Keywords:** rainfall model, sum of independent gamma, seasonal rainfall