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Estimating Parameters of different Continuous Distributions using Bayesian Technique for the Rainfall Data.

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We estimated Bayesian estimators using conjugate prior for Weibull, Rayleigh, and Logistic distributions. Due to the lack of a closed form for these Bayes estimators, Lindley's approximation (1980) approximation under the mean squared error (MSE) loss function has been used to obtain these estimators. The performance of all these estimators can be evaluated using the bias and mean squared error and can be compared using a Monte Carlo simulation. We used a real rainfall dataset and compared it with all the above-obtained Bayes estimators using Monte Carlo simulation.

Key Words: Bayes estimator, bias of an estimator, Lindley's approximation, Weibull distribution, Rayleigh distribution, Logistic distribution, mean square error (MSE).