

**PP-69: STUDY OF RAINFALL IN BANGLADESH USING GLOBAL PRECIPITATION
MEASUREMENT DATA**

M. A. Khatun, A. T. M. S. Azam and M. Rafiuddin

Department of Physics, Bangladesh University of Engineering and Technology, Dhaka

Email: asma240490@gmail.com

Abstract

Bangladesh is recognized worldwide as one of the most vulnerable countries to the impacts of strong rainfall variability. Rainfall is among the atmospheric parameters, one of the most difficult to measure because of its high temporal and spatial variability and discontinuity. To study the possibility of use of Global Precipitation Measurement (GPM) data in Bangladesh, half hourly rainfall data of Integrated Multi-satellite Retrievals for GPM (IMERG) and three hourly Bangladesh Meteorological Department (BMD) rain gauge data are used. The daily, monthly and seasonal variations of rainfall are studied during April, 2014 to May, 2015. The correlation coefficients between daily and monthly rainfall are found 0.86 and 0.99. The root mean square error is found 5.05 between IMERG and rain gauge data. The IMERG and BMD observed daily average rainfall is found 4.29 mm and 5.54 mm, respectively. It is found that yearly rainfall of IMERG is underestimated by 24.51% (520.15mm). IMERG rainfall is underestimated by 5.08% (6.24 mm), 30.30% (125.05 mm) and 49.29% (6.80 mm) during pre-monsoon, monsoon and winter season, respectively. On the other hand, IMERG rainfall is overestimated by 16.54% (4.13 mm) during post-monsoon season.