Journal of Agrometeorology 17 (2) : 268-270 (December 2015)

*Short Comminucation*

# Analysis of one day probable maximum precipitation for designing soil and water conservation structures in Agra, U.P.

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The probable maximum precipitation (PMP) for a given region or area is a prerequisite for planning and designs of structures such as check dams, storage reservoirs, drainage works, irrigation tanks, building, highway bridges, etc. Also, a high density of rainfall causes large scale flooding, claiming several lives and causing property damage on enormous scale. Therefore, accurate estimates of PMP should be essential for a design engineer or a hydrologist to prevent recoverable losses (Ghahraman, 2008).

To estimate the PMP in a place a variety of procedures based on the location of the project basin, availability of region. These data of maximum rainfall of one-day duration were fitted with regression model and found the coefficient of determination ($R^2$) for predicting expected probable maximum precipitation of the study area for different return periods for planning and designing soil and water conservation structures.

The results revealed that the recorded one day maximum rainfall was 322.0 mm in 1981 and minimum rainfall was 42.4mm in 2001. It is inferred that there could be wide variations in annual daily maximum rainfall for the different years.