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Modeling of erosivity index from rainfall data of south Konkan region

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ABSTRACT : Agricultural Research Station (ARS), Mulde Dist. Sindhudurg is characterizes with its unique biodiversity, high intensity rainfall, flash flood, slope (7 to 35 %) and average annual rainfall ranging from 3000 to 4500 mm. It is southern part of konkan situated in 16°42'N latitude and 73°2' E longitude and at an elevation of 17 m from MSL with majority of soil lateritic type with steep slope in shadow of severe soil erosion. Thirteen years rainfall data recorded by automatic rain gauge was collected from Hydrometeorology, ARS, Mulde. This collected data was analyzed for every storm to determine erosivity indices and characteristics of rainfall parameters. The indices were developed for rainfall with all intensities and with intensity ³8 mm/hr, 10 mm/hr, 12 mm/hr. Intensity with ³8 mm/hr was found as threshold intensity and was used for further analysis. Average annual erosivity for ARS Mulde was 11189.186 MJ-mm/ha hr. The month July was contributing mostly in annual erosivity index followed by month June and August. Daily erosivity index has given significant relationship with daily rainfall and I_{30} of the day with coefficient of determination as 0.95 and 0.68, respectively. For KE³8 mm/hr, an erosivity value is 6962.15 MJ-mm/ha.hr of the ARS Mulde.

Key Words: Erosivity, rainfall, threshold intensity, rainfall intensity.