

Assessment of flood events in the data-sparse Brahmaputra Basin in northeast India

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Abstract A preliminary quadratic relationship was developed to predict the flood events in the Brahmaputra Basin. A rainfall of 70 mm or more in a day, followed by spells of lower intensity during the following days can result in floods at the initial stages of the monsoon, while rains of even low intensity can cause floods during subsequent periods as the catchments get saturated. The slope of the catchment, amount of rainfall, vegetation cover, soil moisture and clay content of the soil were used to predict the runoff generation since rainfall and subsequent runoff generation impact the flood events. The observed and predicted values of runoff showed highly significant correlation ($R = 0.8716$), with a predictability of 75.9%.

Key words assessment of flood events; Brahmaputra Basin, northeast India