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## PROBABILISTIC DROUGHT ANALYSIS OF WEEKLY RAINFALL DATA USING MARKOV CHAIN MODEL

N.M. Alam<sup>1</sup>, G.C. Sharma<sup>1,\*</sup>, C. Jana<sup>1</sup>, S. Patra<sup>1</sup>, N.K. Sharma<sup>1</sup>, A.  
Raizada<sup>3</sup>, ParthaPratim Adhikary<sup>2</sup> and P.K. Mishra<sup>1</sup>

<sup>1</sup>Indian Institute of Soil and Water Conservation, Dehradun, India

<sup>2</sup>Indian Institute of Soil and Water Conservation, Research Center, Koraput,  
India

<sup>3</sup>Indian Institute of Soil and Water Conservation, Research Center, Bellary,  
India

\*Corresponding author E Mail: gckak@yahoo.in

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### Abstract

This paper makes an attempt to investigate the pattern of occurrence of wet and dry weeks in three different locations of drought prone areas of India, i.e. Datia in Madhya Pradesh, Bellary in Karnataka and Solapur in Maharashtra. An index of drought proneness to evaluate its extent of degree has been worked out. Besides the probability of getting wet weeks consecutively for more than six, eight and ten weeks have been worked out. Also, the probability of sequence of more than three dry weeks is computed. The results of application of the Markov models are presented and discussed, exhibiting in particular the usefulness of transition probability matrix to agricultural planners and policy makers to understand the climatology of drought in rain fed areas so as to plan long term drought mitigation strategy.