



## **Analysing Drought and Wet Conditions Using Standardized Precipitation Index at Pantnagar**

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**Abstract:** Drought is a natural event and significantly affects water resources sustainability, the environment and agricultural production. This study was conducted to characterize the meteorological drought and wet events using Standardized Precipitation Index (SPI) at Pantnagar located in Himalayan State of Uttarakhand, India. The SPI was calculated for 1-, 3-, 6-, 9-, 12- and 24-month time scales using monthly rainfall data of 56 years (1961-2016). The results of analysis revealed that there are 71% chances of normal condition for which no specific measures are required for water conservation or drainage. The occurrence of severe drought and severe and extreme wet events are also unlikely at Pantnagar. Therefore, the efforts must be made to harvest the excess water during the wet periods and utilize the same during the periods of moderate and extreme droughts for drinking, household activities and irrigation purposes in the study region.

**Keywords:** Rainfall, SPI, Meteorological drought, Pantnagar, Uttarakhand

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