



## Meteorological Drought Assessment Based on Standardized Precipitation Index

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**Abstract:** This study was conducted using the rainfall data for 44 years (1971-2014) of Parbhani district of Marathwada region for assessment meteorological drought and wet conditions based on Standardized Precipitation Index (SPI) for different time scales. The SPI was computed using gamma distribution at 1-, 3-, 6-, 9-, 12- and 24-month time scales. The results of analysis demonstrated that out of total period of 528 months 32 extreme drought, 69 severe drought, 82 extreme wet and 160 severe wet events occurred in the study region. The information generated from this analysis could be appropriately used for crop planning along with proper rainwater harvesting and storage structures in rain-fed and drought affected areas.

**Keywords:** Meteorological drought, Gamma distribution, SPI, Maharashtra state

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