

# Assessment of Climate Change in West Godavari District of Andhra Pradesh, India Using Water Balance Approach

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## Abstract

The present research work sought to analyze climatic changes in the West Godavari district of Andhra Pradesh State by utilizing historical climate data spanning 119 years, from 1901 to 2019. During the first five decades of the twentieth century, the average annual temperature in the research region was 27.18°C, whereas the next five decades were 0.46°C warmer than the first. The twenty-first century's first two decades were even warmer, with an average temperature of 28.2°C, 0.56°C higher. During the SW-monsoon season, the maximum average annual rainfall received was 642.6 mm (about 60% of total rainfall). According to the Thornthwaite water balancing approach, the district has a mega thermal type of climate (A') based on thermal regime classification and a semi-arid (D) kind of climate based on moisture regime classification. Studies on water balance have been shown to be crucial for comprehending the climate change scenario in any place in the context of strategic plans for managing natural resources and fostering economic growth.

**Keywords:** Climate, Temperature, Rainfall, Water Balance, West Godavari, Andhra Pradesh

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