



# Review on Water Holding Capacity of Soil Across the Tropical and Subtropical Forests in India

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**Abstract:** India is one of the world's mega-regions for biodiversity, with 64M ha of protected land comprising 23% of its land. Among these 51M ha of forests are tropical forests rich in vegetation and home to numerous rare, endangered and threatened species. Tropical forests are decreasing at an alarming pace due to various natural factors (floods, cyclones, etc.) and man-made factors (forest fire, clear-cutting, mining, etc.) and this has also led to a decrease in soil quality, which later renders them abandoned. The physiochemical properties of the forest soil differ depending on time and weather, such as temperature, precipitation cycles, topography variability, vegetation cover, various microorganism activities, and other biotic and abiotic factors. The soil- water system is one of the most important soil factors for plant production, carbon allocation, efficiency in photosynthesis, nutrient cycling and biological growth. Water Holding Capacity (WHC) is one of the key parameters that is essential for forest productivity and is significantly associated with increased tree height. The analysis of research papers of past 4 decades was taken into account and found that WHC is one of the key factor that can be used assess forest situations and productivity. Therefore, proper monitoring of this parameter should be carried out in order to conserve and protect the forest ecosystem and for sustainable forest management.

**Keywords:** Water holding capacity, Moist tropical forest, Dry tropical forest, Sub-tropical forest

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