

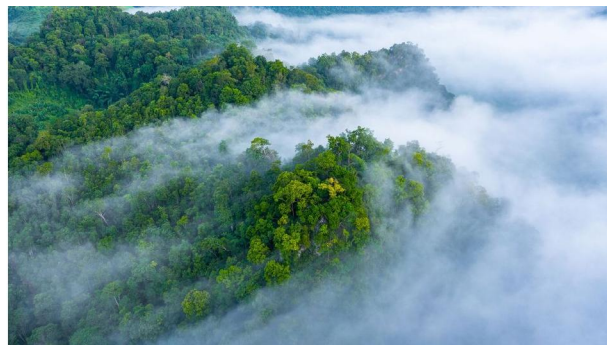
The Effects of Climate Change on Biodiversity in Tropical Rainforests

Miss. Rafat Sabir Chafekar

Department of Chemistry

M. M. Jagtap College of Arts, Science and Commerce, Mahad-Raigad, Maharashtra, India

Abstract: *Climate change poses a significant threat to global biodiversity, especially in tropical rainforest ecosystems. This study investigates the multifaceted impacts of rising temperatures, changing precipitation patterns, and extreme weather events on biodiversity hotspots. Employing a combination of satellite imagery analysis, field surveys, and species distribution models, we assessed the vulnerability of flora and fauna to climate change stressors. Our findings reveal a complex interplay between climate variables and biodiversity dynamics. Increased temperatures are driving shifts in species ranges, leading to altered community compositions and distribution patterns. Furthermore, the intensification of extreme weather events, notably droughts and floods, has inflicted severe stress on delicate ecological niches, resulting in habitat degradation and species loss. We also identified resilient species and ecosystems that exhibit adaptive strategies to climate stressors, offering potential avenues for conservation efforts. Additionally, our study highlights the urgent need for comprehensive conservation policies, emphasising habitat protection, restoration initiatives, and the incorporation of climate resilience into conservation planning. This research underscores the critical importance of proactive measures to mitigate the impacts of climate change on biodiversity, safeguarding these invaluable ecosystems and the myriad species they support. This abstract provides a succinct overview of the research scope, methodologies employed, key findings, and the broader implications of the study related to the impact of climate change on biodiversity in tropical rainforests*



Keywords: Climate change, Tropical Rainforests, Species Distribution, Habitat Degradation, Extinction Risk, Ecosystem Resilience, Conservation Strategies, Climate Resilience, Species Adaptation, Ecological Impacts, Global Warming Effects, Climate Stressors, Conservation Policies