

Vanishing Biodiversity: Global Threats to Flora and Fauna

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CLIMATE CHANGE AND GLOBAL WARMING: CHALLENGE FOR FUTURE GENERATIONS

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Abstract: The world's most pressing issues today are global warming and climate change, which have a significant impact on economies, societies and the environment everywhere. This study examines the intricate facets of the issues, examining their ramifications, fundamental causes, strategies for mitigating and adapting to their effects. The study highlights how crucial global collaboration and all-encompassing efforts are to effectively tackling these problems. Through an in-depth examination of its impacts on the environment, ecology, and society. This study highlights how important, it is to understand and mitigate climate change. In addition, it studies the causes of climate change, focusing on industrial activity, deforestation, and greenhouse gas emissions in particular (Abu Rayhan *et al*, 2023). Subsequently, the paper explains several mitigation strategies, including the use of carbon capture and efficiency improvement technologies, reforestation initiatives, and sustainable urban planning. In addition, a comprehensive discourse is conducted regarding adaptation tactics, such as enhanced farming methods, community engagement, informed policies and climate change-resistant infrastructure (IPCC,2021). The paper's conclusion highlights the significance of quick action and global cooperation in minimizing the effects of climate change and getting ready for them.

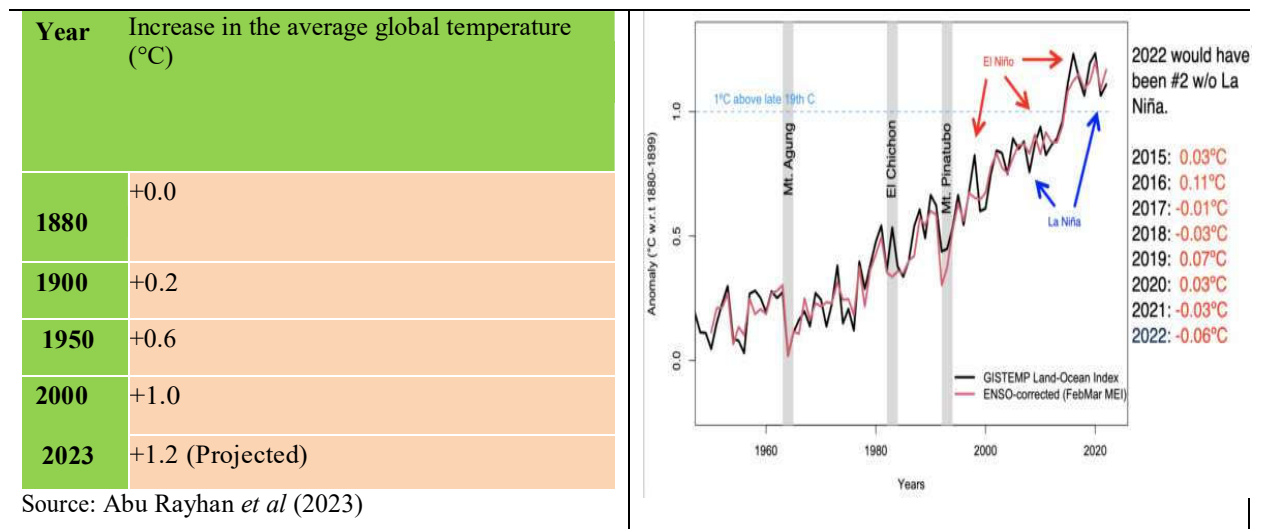
Key words : Climate change, global warming, greenhouse gas emissions, resilience, sustainability, mitigation strategies and adaptation measures.

Introduction

Climate change is the long-term alteration of Earth's average weather patterns, which includes variations in temperature, precipitation and other climatic factors. One of the primary causes of contemporary climate change is global warming, which specifically refers to the increase in Earth's average surface temperature brought on by human activity. Since burning fossil fuels, deforestation and other industrial processes release greenhouse gases into the atmosphere, the planet has been warming. Understanding the effects of climate change and global warming is crucial because these are global phenomena that transcend social and geographic boundaries (Adger *et al*, 2009). Beyond changes in the environment, there are ramifications for economies, ecosystems and the welfare of present and future generations. By carefully examining these effects, we can anticipate issues and develop practical mitigation and adaptation strategies.

Through careful investigation and analysis, we can quantify the potential risks related to rising temperatures, shifting precipitation patterns, and an increase in the frequency and intensity of extreme weather events. These kinds of insights are essential for creating policies that safeguard agriculture, assist marginalized communities and ensure water security. We can develop resilient solutions that halt the further escalation of these phenomena by learning more about the causes and effects of climate change. Consequently, in order to comprehend the complexities of climate change and global warming and to promote international cooperation, it is imperative that the many facets of these phenomena be investigated. This research paper aims to investigate the different facets of these issues and offer understanding of their origins, consequences, mitigation strategies, and adaptation techniques. By taking this action, we contribute to the global effort to ensure that our planet will support life for future

Table 1 : Global Temperature increase Over Time.



Source: Abu Rayhan *et al* (2023)

Table Note : The table and graph highlights the acceleration of global warming by showing the steady increase in global temperatures since 1880.

generations.

As this essay develops, we will look more closely at the intricacies of climate change, including how it impacts ecology, society, and the environment in addition to the underlying causes that need to be addressed. We will also examine strategies for mitigating its impact and adapting to the implemented modifications. We can effectively address the challenges posed by climate change and global warming by implementing an informed and collaborative approach (Smith Davis *et al*, 2016).

Socio, Ecological, Environmental Impacts of Climate Change and Global Warming

Societal Impacts

Dangers to Agriculture and Food Security : Climate change affects agricultural productivity through altering growing seasons, changing temperature and precipitation patterns, and increasing the frequency of pests and diseases. All of these factors jeopardize global food security, especially in regions where agriculture serves as a primary source of livelihood (Klein