



EFFECT OF CLIMATE CHANGES

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ABSTRACT:

Climate change is a significant factor that puts the lives of all people on Earth in danger. Long-term human changes, innate natural processes, outside pressure, or any combination of these can all lead to changes in climate. According to data gathered from ice cores and other sources, climate change is to blame for the acknowledged extreme temperature variations, increase in greenhouse gas emissions, and sea level changes that have been observed over the preceding centuries and even decades. The increase in greenhouse gas emissions will have a substantial effect on important sectors of the global economy, including industry and agriculture. Human welfare and health services would suffer as a result, and advancement would be hampered overall. Large sections of many factors, such as rising sea levels and decreasing temperatures, will cause the planet to become uninhabitable; however, some scientists believe that the likelihood of a new ice age starting has been delayed or slowed down by the increase in greenhouse gas concentrations.

We have discussed every scenario that could arise from climate change, such as rising sea levels, increased temperatures, greenhouse gas emissions, and other dire consequences for all living species of plants and animals as well as people.

Keywords: Climate Change, Environment, Anthropogenic Changes, Greenhouse Gases, Sea Level Change

[1] INTRODUCTION

The most often used word in environmental communication today is "climate change," which refers to the change in the current climate that has been greatly impacted by human activity. Even though there is nothing new about the issue. It is perhaps one of the most pressing environmental issues facing humanity today [1,2,3]. From the early nineteenth century until the late twentieth century, the issue was exclusively discussed within the scientific community [4, 5]. The mid-to-late 1980s saw its initial appearance on the public agenda [5, 6]. Since then,

believers have been able to see that there are grave risks and that the impacts of human activity on the climate have reached an alarming level to material establishments and societal structures. Conversely, the detractors have presented sufficient evidence to disprove climate change as a result of human activity. Once again, the proponents of climate change have differed on how to effectively address this urgent issue. The topic of climate change has been explored and scrutinized from a range of perspectives due to the increasing public curiosity about the matter and the consequent comprehension of the risks and uncertainties involved.

There is no denying that climate change has been happening from the beginning of Earth's history, even while there is continuous debate on the rate and source of the change as well as mitigation techniques for the increased risks [7]. How has the constantly shifting climate affected this man-made feature throughout time? In an attempt to give a solution, the second section of this article provides a brief explanation of climate change as well as a summary of how the issue has changed throughout time within the context of environmental discourse. The discourse surrounding climate change has a history that demonstrates shifts in the viewpoints that have been used to describe and discuss the issue regularly [4]. Consequently, the primary defense and rebuttal of this are covered in the third section. Climate Change about the topic's wider discussion. Stated differently, this section attempts to analyze the philosophical foundations of climate change science. The final section makes some recommendations based on the analysis of problems under a new paradigm.

[2] THE EFFECTS OF CLIMATE CHANGE DURING THE EARLY STAGES OF EARTH'S EXISTENCE

Since the beginning of Earth's history, around 4540 million years ago, the climate has varied globally on all timescales [1]. It has cycled between extraordinarily warm conditions, with annual mean temperatures above 10 C in Polar Areas, and glacial periods, where most of the mid-latitude continents were buried in ice sheets. Scientists claim that during the early history of the planet, forcing related to global climate change included shifts in continental plates, huge volcanic eruptions, and modifications to Earth's orbit.

Nonetheless, they can exhibit variation across practically all timescales due to their interaction with one another. For example, on periods spanning many millennia, orbital forcing may alter the temperature and precipitation at Earth's surface, leading to modifications in the oceanic circulation known as the El Nino- Southern Oscillation, or ENSO., etc. These external processes and forcings can be explained in more detail as follow

Earth Tectonics

The horizontal and vertical displacements caused by plate tectonics play a critical role in climate change over a broad range of timescales. Because of its close contact to the atmosphere and

oceans, the solid earth's surface is always changing. This affects the position of high terrain that is appropriate for glaciers and ice sheets, as well as the equilibrium of incoming and outgoing radiation, atmospheric circulation, and ocean currents. Tectonic activities also yield significant indirect climatic effects by governing geochemical cycles, atmospheric and oceanic composition, and other relevant factors [3].

Earth-orbiting Forcing

Due to low-frequency variations in the characteristics of the Earth's orbit caused by Earth tilting, the amount of solar energy received by each point on the surface varies depending on the season [4]. The most notable variations occur between 10 and 100 ka (kilo annum, Thousand-year). Conversely, interannual and decadal periods exhibit smaller amplitude fluctuations, meaning that no year is precisely the same as any other.

Volcanic Eruptions

A series of isolated volcanic eruptions in the years that follow cause a global cooling. In addition, a low-frequency forcing could be caused by volcanic activity if multiple large eruptions take place in a given decade or century. Vibrant volcanic activity associated with longer-term plate tectonics may result in strong cooling lasting thousands to millions of years [4].

The NAO and El Niño Oscillations

Furthermore, the degree of climate variability on Earth is determined in large part by internal dynamics. Internal dynamics that can be impacted by global warming include the El Nino Southern Oscillation (ENSO), the North Atlantic Oscillation (NAO), and the Southern Annular Mode (SAM), also known as The Antarctic Oscillation (AAO) refers to the latitudinal shift of the westerly wind belt encircling Antarctica [4].

Vegetable Dynamics

Scientists estimate that the formation of seas and oceans occurred four billion years ago on Earth's surface. However, single-celled photosynthetic organisms are thought to have given rise to life around 3.5 billion years ago. Although they began to give oxygen to the air, the majority of life remained tiny. Complex multicellular life started to appear about 580 million years ago, changed over time, and reached its zenith at the Cambrian Explosion about 541 million years ago [5,6]. At that time, almost all key groupings started to appear in the fossil record, and the majority of modern phyla separated. This sudden boom in the variety and abundance of life forms produced the majority of the main species that are known today. It also raised oxygen levels and other emissions of greenhouse gases. The ecology of the world has changed during the long history of the planet due to these forces working in combination with others, as seen in. Millions of plant and animal species have flourished and increased in number as a result of climate change, but many millions have also gone extinct as a result of it [8].

[3] CONCLUSION

Study and research reveal that the condition of climate is decreasing day by day in each aspect. Main cause of Climate changing is largely due to human actions, and the results of this changing are coming gradually. Climate change is a universal marvel; to diminish its consequences must take care of it

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