

## Need to address climate and environmental change.

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### Introduction

Climate and environmental change have emerged as defining challenges of our era. These transformations are predominantly driven by human activities and have far-reaching implications for our planet and the future. In this article, we will delve into the pressing need to address climate and environmental change, covering their causes, effects, and potential solutions. One of the leading culprits behind climate change is the release of greenhouse gases, including Carbon-dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and Nitrous Oxide (N<sub>2</sub>O). These gases are emitted into the atmosphere through activities such as burning fossil fuels, deforestation, and industrial processes. The accumulation of these gases traps heat, causing global warming [1].

The clearing of forests for agriculture, urban expansion, and logging significantly contributes to environmental change. Forests play a vital role in climate regulation, as they absorb CO<sub>2</sub> and provide habitats for diverse ecosystems. Deforestation not only releases stored carbon but also disrupts the natural balance of ecosystems. Urban sprawl, agricultural development, and infrastructure expansion lead to landscape alterations and habitat destruction. This results in habitat loss, fragmentation, and degradation, affecting biodiversity and overall ecosystem health [2].

Pollutants released into the air, water, and soil have extensive environmental and human health implications. Industrial emissions and vehicle traffic release air pollutants that can lead to respiratory issues and climate-altering particulate matter. Water pollution affects aquatic ecosystems and human access to clean drinking water, while soil pollution can render land infertile, impacting agriculture and biodiversity.

Global warming is causing a gradual increase in average temperatures worldwide. This results in more frequent and severe heat waves, droughts, and wildfires. Elevated temperatures also adversely affect agriculture, water resources, and human health. Climate change is closely linked to a rise in the frequency and intensity of extreme weather events, such as hurricanes, floods, and storms. These events can cause substantial damage to infrastructure, disrupt communities, and lead to loss of life [3].

The melting of polar ice caps, primarily in the Arctic and Antarctic, is leading to rising sea levels. This poses a significant threat to coastal communities due to coastal erosion, saltwater

intrusion, and increased flooding. Environmental changes and habitat destruction are contributing to a mass extinction event. The loss of biodiversity has far-reaching effects on ecosystems and human society, affecting food security, disease control, and ecosystem services. Excess atmospheric CO<sub>2</sub> being absorbed by the oceans is causing them to become more acidic. This threatens marine life, particularly coral reefs and shellfish, which rely on stable pH levels to build their skeletons and shells.

Accelerating the shift from fossil fuels to renewable energy sources, such as wind, solar, and hydropower, is essential to reducing greenhouse gas emissions. Government policies and incentives can facilitate this transition. The protection and restoration of forests, wetlands, and other natural habitats can help sequester carbon, preserve biodiversity, and mitigate climate change. Sustainable land management practices promote the coexistence of ecosystems and human development [4].

The implementation of sustainable agricultural practices, reduction of land-use change, and the minimization of harmful pesticide and fertilizer usage can help preserve the environment and support food security. Enforcing stricter regulations on industrial emissions, improving waste management, and developing cleaner technologies can reduce pollution and its adverse impacts on health and the environment.

Communities and governments must prepare for the inevitable impacts of climate change by developing adaptive strategies. These include building resilient infrastructure and implementing early warning systems for extreme weather events. Climate and environmental change are global issues that necessitate international cooperation. Agreements such as the Paris Agreement aim to unite nations in their efforts to combat climate change [5].

### Conclusion

In conclusion, climate and environmental change present significant challenges to humanity and the planet. The urgency of addressing these issues cannot be overstated. Individuals, communities, governments, and businesses must take proactive steps to reduce greenhouse gas emissions, protect natural habitats, and mitigate the impact of climate change. Only through collective efforts can we hope to secure a sustainable and habitable future for generations to come.

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Received: 15-Aug-2023, Manuscript No. AAJPHN-23-117935; Editor assigned: 18-Aug-2023, PreQC No. AAJPHN-23-117935 (PQ); Reviewed: 31-Aug-2023, QC No. AAJPHN-23-117935; Revised: 02-Sep-2023, Manuscript No. AAJPHN-23-117935 (R); Published: 08-Sep-2023, DOI:10.35841/ajphn-6.5.167

## References

1. Bardgett RD, Caruso T. Soil microbial community responses to climate extremes: resistance, resilience and transitions to alternative states. *Phil Trans R Soc.* 2020;375:20190112.
2. Iglesias V, Whitlock C. If the trees burn, is the forest lost? Past dynamics in temperate forests help inform management strategies. *Phil Trans R Soc.* 2020;375:20190115.
3. Molotoks A, Henry R, Stehfest E, et al. Comparing the impact of future cropland expansion on global biodiversity and carbon storage across models and scenarios. *Phil Trans R Soc.* 2020;375:20190189.
4. Harrison S. Plant community diversity will decline more than increase under climatic warming. *Phil Trans R Soc.* 2020; 375:20190106.
5. Thomas CD. The development of Anthropocene biotas. *Phil Trans R Soc.* 2020;375:20190113.