

Book Chapter

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Emerging Technologies in Environmental Studies.

Editor

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Topic:

“Global Warming Aftermath on Desert: Need a Shared Solution for Global Warming Out of the Copyright and Patent”

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Abstract

Human activities, including burning fossil fuels, have led to a 1.5°C increase in Earth's average surface air temperature, causing desert expansion, heat waves, wildfires, ocean heating, acidification, and sea level rise. The discussion on the topic of global warming has been going on for the last many years. Thousands of seminars, workshops, national and international programs have been organized on this serious topic, but even today this problem remains the same, in fact it can be said that it has become even more serious. If it is happening then it will not be an exaggeration, although there are many factors pointing towards climate change, but recent incidents like floods in the desert and increase in temperature in many areas during summer and its increasing day by day are clearly indicating the deteriorating environmental balance of the earth. And the biggest change in this is that the temperature increases on the first day. In the past, the night temperature used to increase and decrease, but this time in the heat, the night temperature has not decreased, which is indicating the imbalance of the balancing factor of nature. Now the time has come that many serious efforts should be made to solve the climate change problem, which should be more than copyrights and patents because this problem is not of one or two

people but of the entire human race. I find this positive thing in people. What has been seen is that people are now more concerned about this issue of climate change appeared alert.

Source of Global Warming:

Humans are causing global warming

Deforestation

Plants give oxygen and maintain the equilibrium of the atmosphere, but the use of timbers for domestic and marketable purposes leads to conflicts and global warming.



Source By: IRF (DESERT)

Transportation

Driving a auto, indeed over long distances, causes significant gas emigrations due to the burning of fossil energies and releases large quantities of carbon dioxide and poisons into the atmosphere. Chlorofluorocarbons Present inordinate use of air exertion and refrigeration depletes the atmospheric ozone subcaste with the release of CFCs, allowing dangerous ultraviolet rays to enter the earth's atmosphere.

Industrialization

According to the Committee on Climate Change, the frugality caused a global extremity with the destruction of manufactories caused by a 1.1°C increase in global temperature between 1880 and 2012.

Agriculture releases carbon dioxide and methane feasts, which contribute to greenhouse gas emissions and cause global warming. The increase in population causes the rainfall to increase, therefore adding the carbon dioxide level.

Natural Reasons for Global Warming:

Volcanic eruptions, water vapor, dissolving permafrost, and forest bursts are major contributors to worldwide warming. Volcanic fiery remains and smoke, water vapor, melting permafrost, and woodland fires discharge greenhouse gasses into the environment, causing more water to vanish and remain in the air, further contributing to global warming.

Ramifications of Global Warming:

Increase in Temperature:

Global Warming, -1 degree temperature increase since 1880, has led to glacier melting, resulting in rising sea levels, potentially causing severe coastal impacts.

Warning for Ecosystem

Global warming is causing coral reefs to ended up more delicate, possibly causing the loss of plant and animal life.

Change in Climate Conditions

Global warming has caused a climatic imbalance, resulting in dry seasons and floods in certain zones.

Increase in Diseases/Virus

Global warming alters heat and humidity patterns, causing the movement of mosquitoes carrying and spreading diseases.

High Mortality Rates

Increased floods, tsunamis, and other natural disasters often increase the average death toll and spread diseases that can negatively impact human life.

Decline of Natural Habitat

Global warming causes habitat loss for plants and animals, leading to migration and even extincting many species, further highlighting the significant impact on biodiversity.

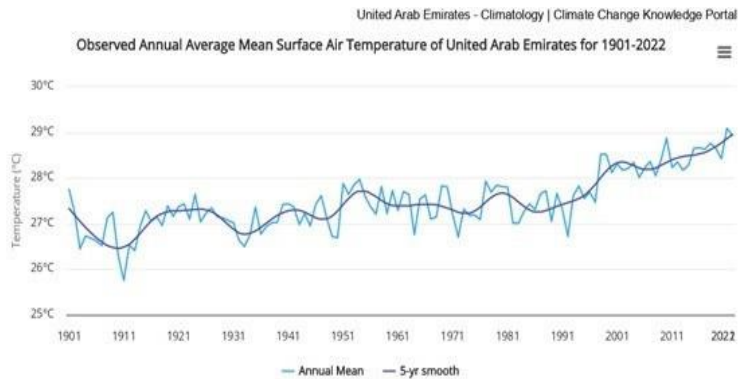
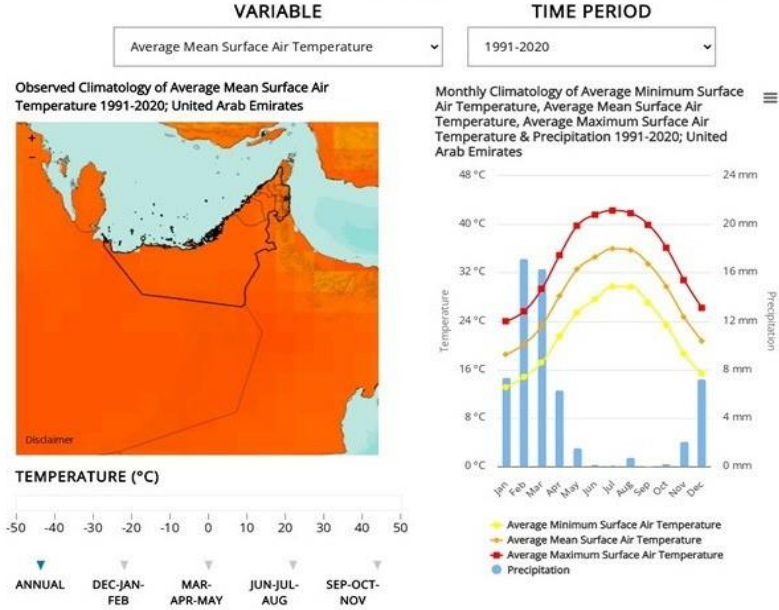
Global Warming impact on Desert

Sand and dust storms can have disastrous consequences for agriculture and industry, causing profitable losses of nearly \$ 1 billion in northern China alone in just three times. They can also spark respiratory affections in humans, leading to diseases like asthma or pneumonia. Dust patches can also act as carriers for infectious conditions.

Sand and dust storms are delicate to control directly due to climate change and desertification. still, people can control conditions that lead to land drying up and dust gathering. States can restore the land by perfecting water effectiveness, guarding top soils, and adding foliage cover. In semi-arid regions, growers can produce food without clearing land and overgrazing. Lowering hothouse gas emigrations is pivotal as temperatures rise, causing further famines and beach storms. Investing in early warning systems can save lives and limit profitable damage. The UN Decade on Ecosystem Restoration 2021- 2030 aims to scale up restoration efforts.

Researchers have found that overabundance carbon dioxide can cause leave plants to go wild during wet a long time, supporting climate change models that anticipate rising air CO2 levels will disturb the ecology of delicate desert environments. Experts fear that this change will favor invasive plants, which are known to trigger wildfires. The study, led by ecologist Stanley Smith, found that all plants in CO2 plots grew bigger and produced more seeds during the wet year, but some invasive species, such as cheatgrass, doubled their density in wet, high-CO2 conditions. Long-term elevated CO2 levels could give exotic species a boost, and extra plant matter could fuel fires. We can understand by taking example of UAE

The United Arab Emirates' climate for 1991-2020 is characterized by an arid desert climate with two fundamental seasons, winter and summer, and conflicting precipitation. The nation is too inclined to occasional savage dust storms, known as shamal winds.



Desert climate is being significantly impacted by global warming, with temperatures rising quickly than the global normal. Desert regions are passed up to 2 °C of temperature increase over the last century, causing severe famines and disrupting biodiversity and human livelihoods. also, some deserts are witnessing increased downfall variability, leading to flash floods.

Addressing these issues is pivotal for environmental operation and sustainability.

From April 14 to 15 2024, the United Arab Emirates(UAE) and the northern belt of Oman were struck by an exceptionally heavy downfall causing massive disturbance in structure and public life in the area and leading to at least 20 losses in Oman and four in the UAE.

Threats to Desert:

Deserts face significant challenges such as overgrazing, deforestation, agriculture, water exploitation, soil pollution, industrial operations, and armed conflict-related risks. Deserts are frequently overlooked when it comes to climate change, but as temperatures rise they're among the most vulnerable places on Earth. Their fragile crust is home to millions of microbes without which other desert life couldn't survive. Still, deserts will spread and engulf productive agricultural land, If this biocrust dies. Global warming could significantly impact hot deserts, potentially increasing their area. Desertification, caused by human activities like firewood gathering and animal grazing, is converting semiarid regions into deserts, but population growth and land demand pose significant challenges to combat this issue.

Solution for Global Warming in Desert:

Need a Shared Solution for Global warming out of Copyright and patent. To improve arid lands, we can efficiently use water resources, control salinization, and plant sand-fixing bushes and trees. To promote a healthy planet, adopt sustainable practices like energy conservation, walking, biking, and using public transport. Decrease reliance on fossil fuels, increment energy productivity, and utilize renewable energy. Implement sustainable transportation, buildings, forestry administration, and conservation - based arrangements for a sustainable future. The importance of reducing our reliance on fossil fuels, promoting

energy efficiency, renewable energy, sustainable transportation, sustainable buildings, better forestry management, conservation-based solutions, and industrial solutions. It also encourages recycling, altering transportation methods, avoiding food waste, managing energy consumption, and educating others. It should take into consideration for sustainable transport, improving farming, promoting vegan diets, restoring nature, protecting forests and protecting oceans.

Conclusion of Global Warming aftermath Desert:

Desertification is the degradation of dryland environments, influencing millions of people's livelihoods and preventing poverty reduction. Causes include social, political, financial, and climatic factors. Desertification impacts vary across regions and can cause adverse impacts outside drylands, such as increased dust storms and political and social issues. Preventative measures can prevent desertification and restore dryland ecosystems, but later attempts are costly and limited in results. It suggests total desertified areas are likely to increase, and proactive management approaches are most effective in coping with desertification. Combating desertification yields multiple local and global benefits mitigates biodiversity loss, and helps meet the Millennium Development Goals. Dryland populations need viable alternatives to maintain livelihoods without desertification, embedded in national strategies to reduce poverty and combat desertification. Need a Shared Solution for Global warming out of Copyright and patent

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