

A Study of Impact and Causes of Climate Change

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Abstract: - Climate is the average pattern of weather over the long term. Climate is the mix of weathers in a place in other words it is average weather. It includes variation in temperature, atmospheric pressure, wind, precipitation (rain or snow), humidity, wind and atmospheric particle count. Climate patterns play a fundamental role in shaping natural ecosystems, and the human economies and cultures that depend on them and it is changing rapidly due increasing Co₂, greenhouse effect etc. Increasing in temperature is one of the impacts of climate change and it is damage the ozone layer. In this paper we studied about what are the cause of climate change and effect of climate change on humans and others.

Keywords:-Greenhouse effect, Climate Change.

I. INTRODUCTION

Climate, which comes from the Greek klima meaning 'area', usually refers to a region's long-term weather patterns. The weather conditions prevailing in an area in general or over a long period is called climate. In other words climate is to look at average temperature and precipitation over time. While the weather can change in just a few hours, climate takes hundreds, thousands, even millions of years to change. Other useful elements for describing climate include the type and the timing of precipitation, amount of sunshine, average wind speeds and directions, number of days above freezing, weather extremes, and local geography. Climate change, also called global warming, refers to the rise in average surface temperatures on Earth. The global average temperature is influenced by many interacting systems which, together, we call the climate system

According to the report, Preparing for a Changing Climate, rising levels of carbon dioxide and other gases trap heat within the atmosphere which can have a range of effects on ecosystems, and are causing wide-ranging impacts, including rising sea levels; more extreme heat events, melting snow and ice; fires and drought that render landscapes more susceptible to wildfires; and more extreme storms, rainfall and floods.

There is broad-based agreement within the scientific community that climate change is real. The U.S. Environmental Protection Agency, the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration concur that climate change is indeed occurring and is almost certainly due to human activity.

Earth's temperatures in 2015 were the hottest ever recorded (source: NASA). Why does this matter? Because a change of even 1 degree Fahrenheit – which may sound small – can

upset the delicate balance of ecosystems, and affect plants and animals that inhabit them

II. CAUSES OF CLIMATE CHANGE

There are mainly two types of causes of climate change which are Natural causes and human cause.

A. Natural causes

1. Continental drift

Continental drift is the movement of the Earth's continents relative to each other, thus appearing to "drift" across the ocean bed. Continental drift was a theory that explained how continents shift position on Earth's surface. The Himalayan range is rising by about 1 mm (millimeter) every year because the Indian land mass is moving towards the Asian land mass, slowly but steadily.

2. Orbital Changes

The earth makes one full orbit around the sun each year. It is tilted at an angle of 23.5° to the perpendicular plane of its orbital path. Changes in the tilt of the earth can lead to small but climatically important changes in the strength of the seasons, more tilt means warmer summers and colder winters; less tilt means cooler summers and milder winters

3. Volcanic Eruptions

Volcanic eruptions discharge carbon dioxide, but they may also emit aerosols, such as volcanic ash or dust, and sulfur dioxide. Aerosols are liquids and solids that float around in the air. They may also include soot, dust, salt crystals, bacteria, and viruses..

4. Ocean currents

The oceans are a major component of the climate system. They cover about 71% of the Earth and absorb about twice as much of the sun's radiation as the atmosphere or the land surface. Ocean currents move vast amounts of heat across the planet - roughly the same amount as the atmosphere does. But the oceans are surrounded by land masses, so heat transport through the water is through channels.

B. Human Causes

Humans are increasingly influencing the climate and the earth's temperature by burning fossil fuels, cutting down rainforests and farming livestock.

1. Greenhouse gases

Some gases in the Earth's atmosphere act a bit like the glass in a greenhouse, trapping the sun's heat and stopping it from leaking back into space.

Many of these gases occur naturally, but human activity is increasing the concentrations of some of them in the atmosphere, in particular:

- carbon dioxide (CO₂)
- methane
- nitrous oxide
- fluorinated gases

Global warming: Global Warming is the increase of Earth's average surface temperature due to effect of greenhouse gases, such as carbon dioxide emissions from burning fossil fuels or from deforestation, which trap heat that would otherwise escape from Earth. This is a type of greenhouse effect.

III. IMPACT OF CLIMATE CHANGE

For example climate change can increase or decrease rainfall, influence agricultural crop yields, affect human health, cause changes to forests and other ecosystems, or even impact our energy supply.

- A warmer atmosphere causes the planet's snow pack, glaciers and sea and freshwater ice to melt at an accelerated pace.
- The influences of weather and climate on human health are significant and varied. Exposure to health hazards related to climate change affects different people and different communities to different degrees.
- The increased evaporation of water is like fuel for storms, exacerbating extreme weather events, such as hurricanes. Rising sea levels make coastal flooding events worse.
- Climate change projections show that there will be continuing increases in the occurrence and severity of some extreme events by the end of the century, while for other extremes the links to climate change are more uncertain
- Changes in the climate affect the air we breathe, both indoors and outdoors.

IV. CONCLUSION

Climate change is intensifying drought, storms, and floods around the world. Where nature has been destroyed by development, communities are at risk from these intensified climate patterns. Scientists around the world are studying how nature can be a buffer for these intensified weather patterns. We see that in this paper how climate change effect human and ii is danger for us. Rising temperatures and changing patterns of precipitation are changing where plants grow, and in the case of our oceans, encouraging the proliferation of species that impact native ocean habitat.

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