



A Survey on Climate Change Over the Last Few Decades

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ABSTRACT: *In the present time the environment changed suddenly due to human activities and these activities affect the environment badly. Human activities like pollution, more release of greenhouse gases and other activities are resulting in the change in our climate. First of all, monitoring the activities of humans that are causing damage to the earth's atmosphere. Through everything or activity cannot be stopped suddenly but the small change can make a lot of difference. Small steps like planting more trees, more use of organic things and less use of non-renewable resources can result in a very positive way and will not affect the climate negatively. Today technology has taken control in human life in such a way that cannot live even for a minimum without it. This paper doing the survey related to the environment with different approaches like fossil fuel, CO₂ emission, Melting of ice, Rise in sea level, and Extreme and frequent change in weather. In the future, if humans cannot control human unnecessary activities then it will affect nature in a very bad manner.*

KEYWORDS: *Climate, CO₂, Environment, Human Activities, Temperature, Earth, Ice, Sea Level, Fossil.*

INTRODUCTION

In ancient times earth's climate was known to be an ice age because of low temperature and frozen ice glaciers, but as time moved on earth's climate kept on changing. It has changed throughout some 11 to 12 thousand year age, there is only ice to be seen on earth but due to increasing human activities, natural disaster and change in earth's orbit allowing more solar energy to penetrate into the earth increased its temperature area and a beginning of human civilization. As the temperature starts increasing, glaciers start melting, raising the sea level and change in earth's climate. Mostly increasing temperature is a result of growing human activities. The more modern humans are getting, the more it's affecting the climate resulting in warm temperature and it's getting worse day by day the most scientific reports show that our climate is changing at a very fast pace, not the same as it was 10 years before or a decade ago. There are many reasons for this change like carbon dioxide emission, due to greenhouse effects emitted by vehicles and factories use of non-renewable sources etc. These are discussed in detail [1].

Design of ecotypic alteration constitutes of a few rules that may know to the modern biology. Here, examine different well-known of Eco geographical directive, especially for those concerned to the body shape in historical, contemporary, & fossil taxa. The confirmation viewing that directive of the geographical alternation in reaction to alternation in the contained atmosphere can also will be applied to the morphological exchanges concluded time in the retaliation of climate changes. These directions hold at alternate ranges, time gauges from the current to the geological time lamina. Patterns of the body size different in confirmation to climatic exchange at the particular species levels may be detected to the subnational level [2]. Difficult, very context-dependent and reductive of the predictive potential of Eco geographical norms are the design of the eco-typical alternative.

This is especially true in the case of the conclusion that increases the environmental effect of human activities. The Eco geography rule, however, can enable us to understand the potential impacts of anthropogenic ecosystem climate change. The global climate will have a far bigger impact on animal populations in the future, which has already been impacted by the body form of the diverse present species [3]. We thus underline and emphasize that the museum specimens are important and the constant need to chronicle the biological variety of the world.

DISCUSSION

1. Fossil Fuel

The emission of Co2 from burning fossil fuels has increased 20% from the last 10 years as the report given by (GLOBAL CARBON PROJECT). While from 1990-2009 it was under control but in 2010 it changed drastically people started using more fossil fuel which results in more amount of Co2 emitted during this time and it is increasing every decade. Emission from fossil fuel grew 2.5% in 2015 to 3.5% in 2016 and seems to grow 0.8% in the coming one-year decade or two temp rise by 2 C and if it continues like this then it will be impossible to store it to reach its peak. So the main concern over here is to keep our temp consistent and to make this possible this should limit the use of fossil fuels [4]. Figure 1 shows the annual global fossil growth rate in different fields.

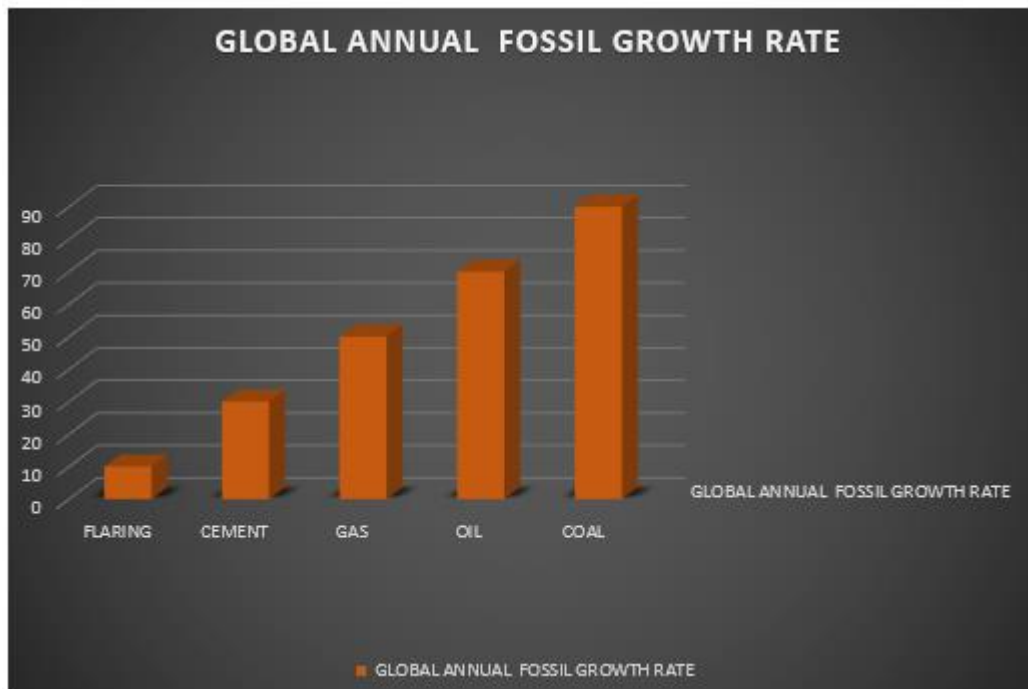


Figure 1: In this graph showing the global annual fossil growth rate in different fields like coal, oil, gas, cement and flaring.

2. CO₂ Emission

CO₂ emitted in the environment mostly affects the environment and its temperature which result in climate change of our planet. In the last 10-20 years' earth has faced more emissions of CO₂ which can be seen in the last 100 years. The greenhouse effect burning of fossil fuels etc. Results in the release of CO₂ in the environment between 2002 and 2012 the growth rate of CO₂ was

2.1ppm (parts per million) and in 2013-2019 this changed to 2.8 ppm [5]. Figure 2 shows annual global fossil growth rate of different countries, Figure 3 CO₂ emission in different countries.

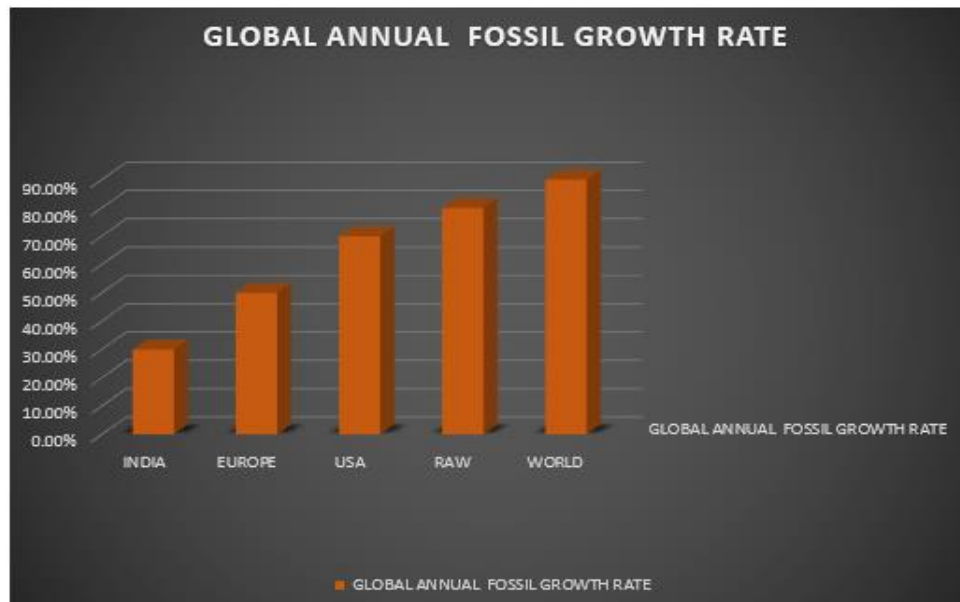


Figure 2: In this graph showing the global annual fossil growth rate of different countries.

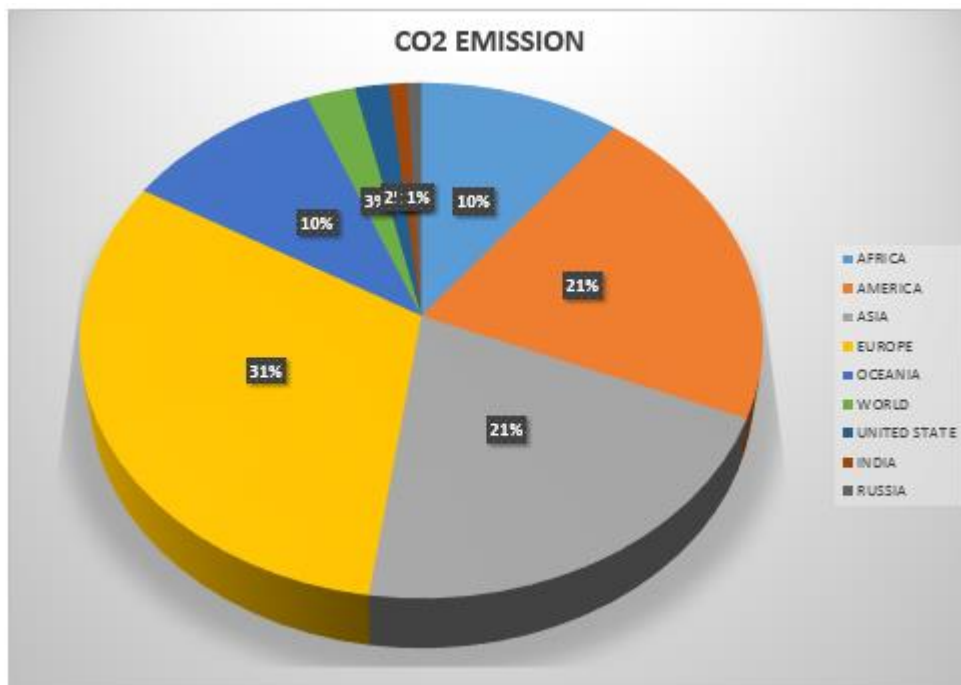


Figure 3: In this graph showing the CO₂ emission of different countries.

3. Melting of Ice

Due to the rise in temperature, the ice on glaciers and sea ice is melting at a very rapid rate. The ice area is decreasing very rapidly over the last few years. The declining rate of ice is 15% per decade as compared to 1990-2020 average [6]. In Antarctica's North Pole and the South Pole the

coldest areas of earth are filled with sea ice. But the ice is melting at very high speed in both the poles due to holes in the ozone layer through which rays seem directly into our atmosphere [7]. Figure 4 shows the greenhouse emission sector of the economy, Figure 5 shows ice melting ratio of Greenland, Antarctica and combine.

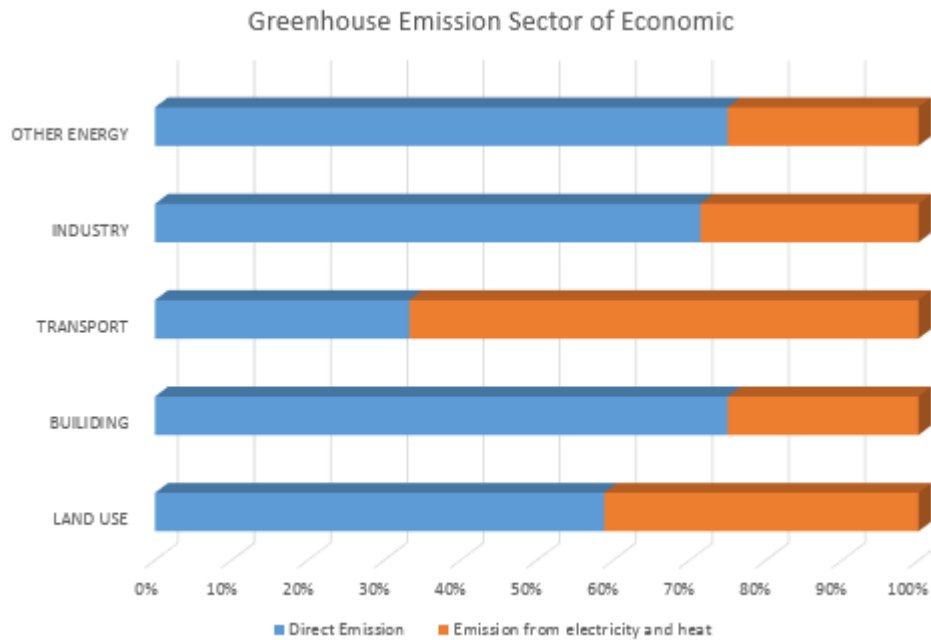


Figure 4: In this graph showing the greenhouse emission sector of the economy.

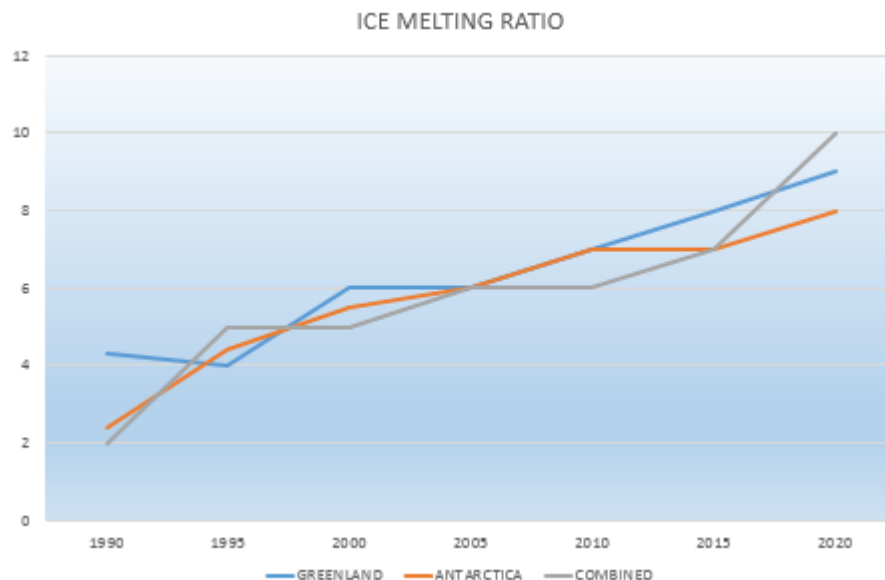


Figure 5: In this graph showing the ice melting ratio of Greenland, Antarctica and Combine.

4. Rise in Sea Level

In the early 90's the sea level was normal and if it was rising at a very invisible rate. But in the past decade there is a sudden and drastic change in the rise of seawater between 1990-1997 rising levels was around 2.3mm/year [8]. But this suddenly changed between the years 2008-2018 as the

rise in sea level grew at a speed level of 4.8mm/year. If according to the reports and survey the rise recorded in 2018 was the highest. The eight largest cities of the world are located by sea posing them a threat and making them the most vulnerable place due to coastal areas. Rise in sea level even by an inch or two results in high tide floods, storms, earthquakes etc which are dangerous to habitat and human infrastructure use [9]. Figure 6 illustrate the rising sea level in different countries, Figure 7 shows high and low decade weather.

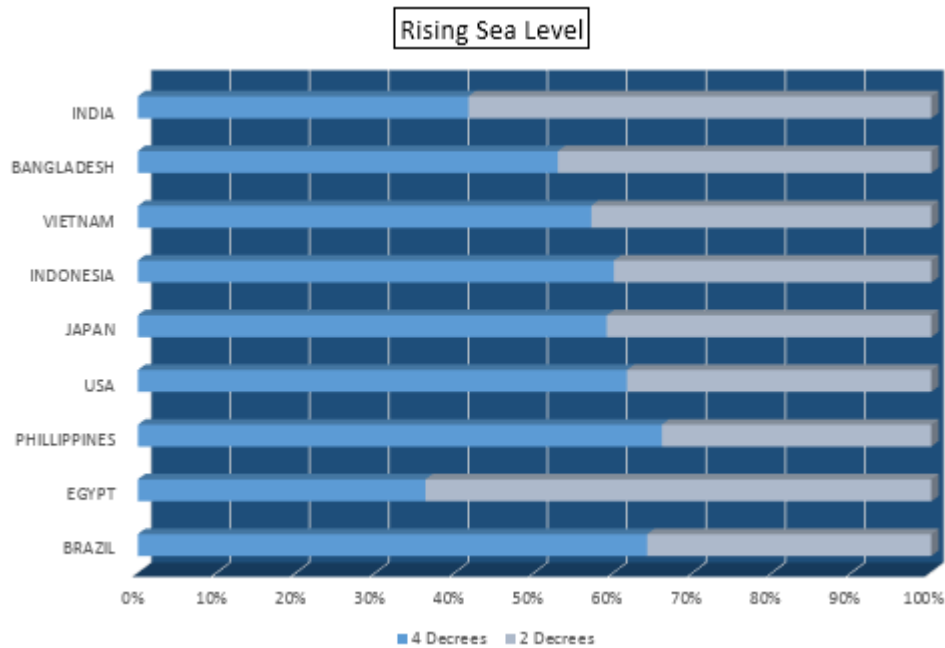


Figure 6: In this graph showing the rising sea level of different countries which are most affected by the rising of sea level.

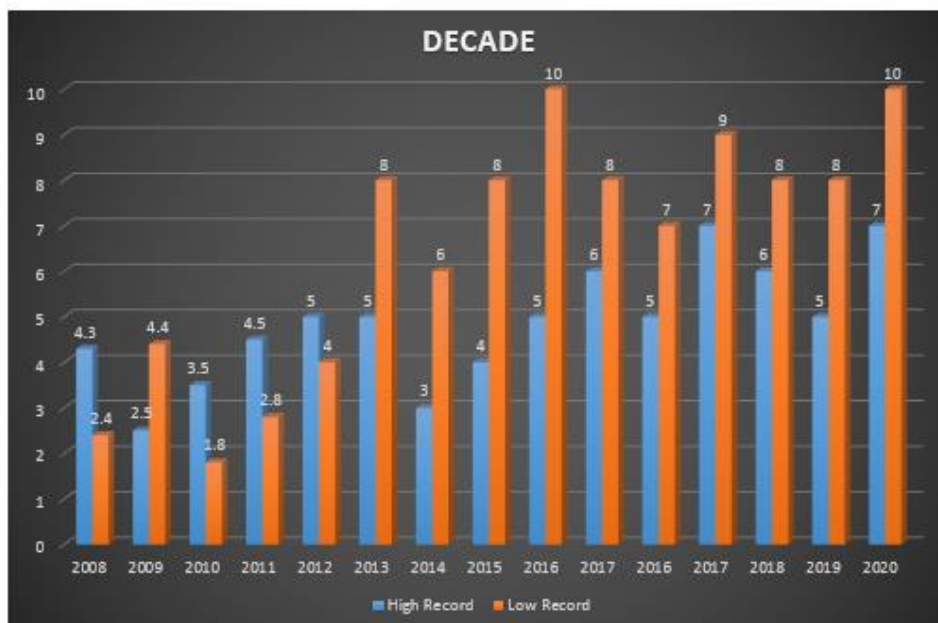


Figure 7: In this graph showing the high and low decade weather.

5. Extreme and Frequent Change in Weather

Due to sudden changes in our atmosphere like sea level, ice melting etc. our climate is also affecting, as earlier it can be predicted. Whether it is going to be a reason, it is going to be cold or hot, but gradually it starts changing as it is becoming more unpredictable. Even the slightest rise in temperature will result in a deadline climate condition. Past decades have seen a lot of devastating activities like heat waves in both land and sea, record rainfall, fire in the forest due to high-temperature human canes and all this is a result of changing climate conditions [10]. Research has said that due to increases in temperature there are high chances of droughts as well. Human activities have induced earth conditions vary drastically which have caused a warning effect in climate and it is resulting in a very critical way.

CONCLUSION

Human activities like pollution, more release of greenhouse gases and other activities are resulting in the change in our climate. First of all, monitoring the activities of humans that are causing damage to the earth's atmosphere. Through everything or activity cannot be stopped suddenly but the small change can make a lot of difference. Small steps like planting more trees, more use of organic things and less use of non-renewable resources can result in a very positive way and will not affect the climate negatively. Today technology has taken control of human life in such a way that cannot live even for a minimum without it. Instead of relying on technology, they should go for more environmentally friendly things and activities. The environmental damage done by human activities that cannot be prevented but it can be stopped by bringing small changes in a day by day life by making changing the lifestyle is healthier and avoid to harm the environment through the human activities

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