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STUDY HAZARD OF GLOBAL WARMING AND CAUSING PROBLEM OF EARTH'S ENVIRONMENT

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Abstract

The level of carbon dioxide in the earth's atmosphere was higher than 1000 parts per million a few million years ago, and the average global atmospheric temperature during the evaluation of mammals and dinosaurs was approximately 22 degrees Celsius, in contrast to the current global average temperature of 15 degrees Celsius. There were large ice-free areas in the Arctic and Antarctica, which fostered the growth of several species of old plants and animals. Around 55 million years ago, the level of the sea was approximately 100 metres higher than it is now. Fossil evidence suggests that large pantodont creatures, trees similar to sequoias, and animals such as crocodiles formerly lived on the island of Svalbard in Norway, which is currently completely frozen over. It is projected that by the year 2100, the concentration of carbon dioxide in the atmosphere will have reached 1000 parts per million (ppm), mostly due to human activity. However, there is nothing new about the problem of global warming; it has been happening since ancient times. The warming that occurred in the past was caused by natural processes, including the actions of volcanoes and the melting of frozen methane. Recent observations of global warming have provided evidence to support the idea that an amplified greenhouse effect resulting from human activity is, in fact, the primary contributor to the warming of the globe. The article provides an overview of global warming, discusses the factors that contribute to it as well as the risks it poses, and then discusses some potential solutions to this pressing problem. First and foremost, efforts should be focused on developing renewable energy sources such as solar, wind, hydro, geothermal, and bio mass. Discovering and making use of energy sources that don't deplete the earth's resources is one way to successfully tackle the ever-increasing effects of global warming.

Keyword: global warming,environment,CO2

Introduction

The beginning of global warming coincides with the arrival of sunlight on Earth. After then, the clouds, atmospheric particles, reflecting ground surfaces, and surface of the seas send back around 30% of the sunlight into space, while the remaining light is absorbed by the oceans, the air, and the land. This, in turn, warms the surface of the planet as well as the atmosphere, which makes it possible for there to be life on the planet. This solar energy is transmitted by the Earth in the form of thermal radiation and infrared rays when the Earth heats up. This solar energy then propagates straight into space, which cools the Earth. On the other hand, a portion of the radiation that leaves the Earth is reabsorbed by carbon dioxide, water vapours, ozone,

methane, and other gases in the atmosphere, and then it is radiated back to the surface of the planet. Due to the fact that these gases are able to retain heat, they are often referred to as greenhouse gases. It is important to point out that the process of re-absorption is really beneficial since the average surface temperature of the Earth would be much lower if there were no greenhouse gases in the atmosphere. The problem started when people started putting more greenhouse gases into the atmosphere intentionally at an alarming pace over the course of the last two centuries. Since then, the concentration of greenhouse gases in the atmosphere has been increasing at an alarming rate. Since 2004, more than 8 billion tonnes of carbon dioxide have been blasted into the atmosphere. The phenomena that is known as the human enhanced global warming effect is caused by higher quantities of greenhouse gases, which makes thermal radiation much more difficult to achieve. Recent observations of global warming have provided new evidence to support the hypothesis that an amplified greenhouse effect resulting from human activity is, in fact, the primary contributor to the warming of the globe. Over the course of the last century, there has been a significant rise in the average temperature of the planet's surface. The average temperature of the Earth's surface increased between 0.6 and 0.9 degrees Celsius from 1906 to 2006; nevertheless, the pace of temperature growth has roughly doubled in the previous 50 years. During the 20th century, there was an increase of about 0.17 metres in the level of the sea. Since 1978, the total area covered by Arctic sea ice has been continuously decreasing at a rate of 2.7% each decade out of each year. Landfills, agricultural operations that decompose biomass and animal dung, and other agricultural processes all contribute to the production of millions of pounds of methane gas. Many nitrogen-based fertilisers, including as urea and diammonium phosphate, as well as other soil management utilisations, contribute to the emission of nitrous oxide into the atmosphere. Once they are released into the atmosphere, these greenhouse gases may remain there for decades or possibly much longer. Since the beginning of the industrial revolution in 1750, levels of carbon dioxide and methane have grown by 35 percent and 148 percent, respectively, according to the Intergovernmental Panel on Climate Change (IPCC).

The influence of greenhouse gases

The energy of the sun is the primary force behind the earth's weather and climate. The surface of the planet is heated by radiation from the sun, and in response, the earth radiates energy back into space. Part of the atmosphere's gases are responsible for retaining heat and for capturing some of the energy that is lost. This leads to a rise in the average temperature over the globe and, as a consequence, creates changes in the way that weather patterns behave. The gases that are capable of retaining heat energy are referred to as greenhouse gases. All greenhouse gases are positive radiative forcing agents, and thus have the ability to disrupt the atmosphere's natural energy balance. The global warming potential (GWP) of a gas is a measurement of the cumulative radiative forcing induced by unit volume of gas over a certain period of time. GWP values for gases are determined with reference to the GWP of CO2, which is the most well studied greenhouse gas. If the global warming potential of carbon dioxide over a period of one hundred years is one, then the GWP of methane is 34. (see table 1).

Table 1 GWP values and lifetimes

Greenhouse Gas	Lifetime (years)	GWP time Horizon 100 years
Methane	12.4	34

HFC-134a (hydro fluorocarbon)	13.4	1550
CFC-11 (chlorofluorocarbon)	45.0	5350
Nitrous oxide (N2O)	121.0	298
Carbon tetra fluoride (CF4)	50000	7350

(Source: Myhreet al., 2013)

The average temperature of the planet has increased by 0.8 degrees Celsius since 1880. (1.4o F). Despite the fact that 2014 is an El-nino neutral year, this has achieved its height during this year. The rate at which the globe is warming up has been accelerating at an ever-increasing rate over the last three decades (see figure 1). ('NASA,' 2015)

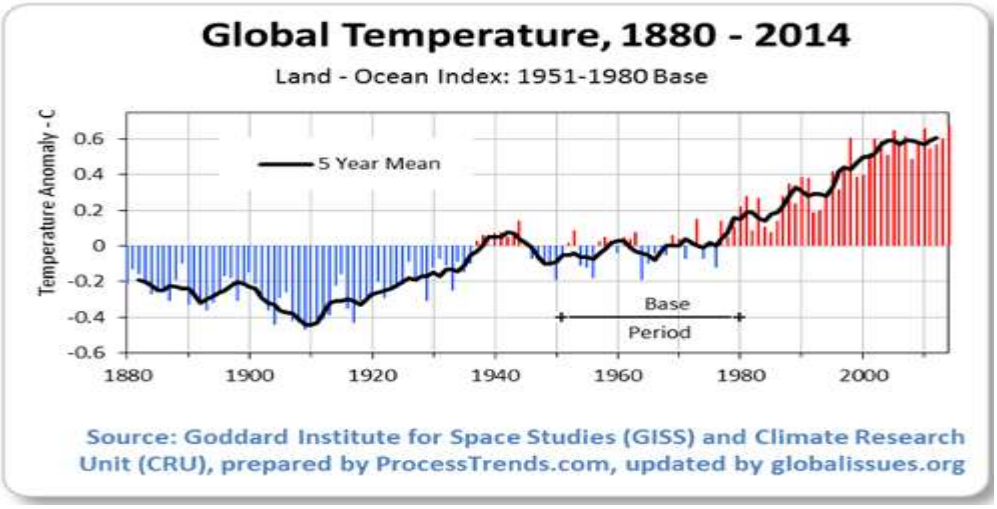


Figure1:Global temperature in the period between 1880 and 2014. ('Anup,'2015)

According to John Cook, who writes for the well-known blog Skeptical Science (2010), there have been ten observations that point to a human imprint on the phenomenon of global warming. The thermosphere is contracting, the tropopause is rising, there is less oxygen in the air, 30 billion tonnes of CO2 are being released annually, nights are warming more quickly than days, there is more fossil fuel carbon in coral, more heat is returned to the earth, there is more fossil fuel carbon in the air, the stratosphere is cooling, and there is less heat escaping into space (see figure 2).

Increasing the concentrations of greenhouse gases will cause the temperature of the planet to rise and will alter the climate. It is very clear that the atmospheric concentrations and distributions of radiatively active gases play a very important role in determining the surface temperature of the Earth and other planets. This conclusion can be drawn from a variety of sources, including laboratory experiments, the study of the atmospheres of Mars and Venus, observations and studies of energy fluxes in the atmosphere and from space, and reconstructions of past climate changes and their likely causes. The energy flows that influence the temperature of the Earth are shown in the form of a schematic figure in Figure 1. (and climate).

About thirty percent of the solar radiation that reaches the top of the atmosphere is reflected back into space by the atmosphere and the surface, primarily by clouds; about twenty percent of the solar radiation that reaches the atmosphere is absorbed there, primarily by water vapour, clouds, and aerosols; and about fifty percent of the solar radiation that reaches the surface is absorbed there. Radiation that is sent out as infrared (or heat) radiation must be equal to the amount of energy that is received by a system in order for the temperature of the system to reach a steady state. Given the current reflectivity of the Earth-atmosphere system, the average surface temperature of the Earth would equilibrate at close to 0 degrees Fahrenheit (-18 degrees Celsius) if the Earth's atmosphere were transparent and its surface was a simple radiator of energy to space. If this were the case, the temperature of the Earth's surface would be much lower. At such temperature, there is no way that life in its current form could be sustained.

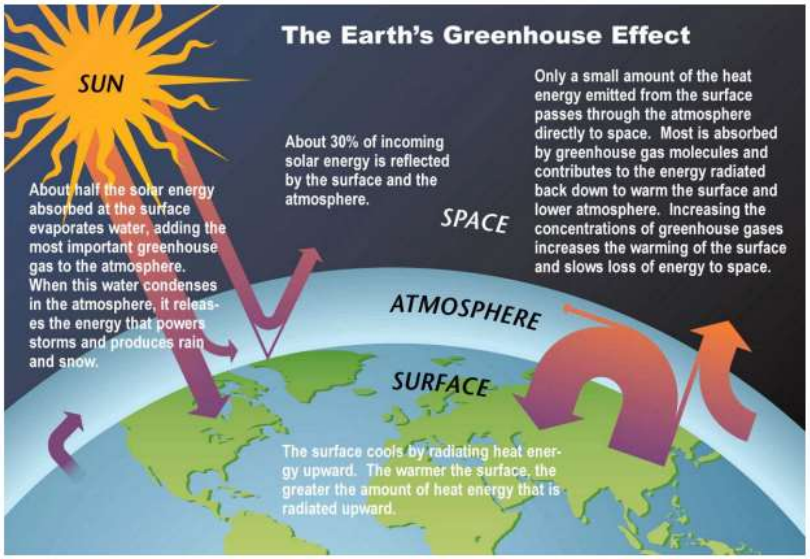


Figure 2 is a schematic representation of the greenhouse effect as it occurs on Earth. The length of the arrows represents the amount of energy that is transferred from one activity to another (NAST, 2000). Approximately thirty percent of the incoming solar energy is sent back into space by clouds and the earth's surface, about twenty percent is absorbed by the atmosphere, and about fifty percent is taken up by the earth's surface. The majority of the infrared radiation (heat) that is released by the surface is absorbed by the atmosphere, and the atmosphere, in turn, re-emits around 90 percent of this quantity to the surface, contributing to the surface's heat gain from the sun. The excess energy that is available at the surface is utilised to either heat the atmosphere close to the surface or to evaporate water. The extra energy that the atmosphere receives from the Sun, from absorbed infrared radiation, from latent heating released during precipitation, and from sensible heating is what is emitted to space in order to balance the net amount of solar radiation that is absorbed by the surface and the atmosphere.

On the other hand, the atmosphere of the Earth is not completely transparent to infrared radiation; thus, it is able to recirculate part of that energy in a manner that generates a warming effect. A significant portion of the infrared radiation that is released by the surface as well as by greenhouse gases and low clouds in the atmosphere is absorbed by a variety of radiatively active gases that are present in the atmosphere, which results in this warming effect. For instance, the amount of infrared radiation that is released by the surface and makes it straight through to space without being absorbed is less than 10% of the total. The greenhouse gases and clouds in the atmosphere are responsible for radiating a considerable portion of the energy that is

absorbed back to the surface. This extra energy contributes to the warming of the surface. This radiation, in turn, causes the surface to warm, which in turn causes its temperature to rise and causes more radiation to be released upward, where a large portion of it is once again absorbed, producing more energy to be radiated back to the surface. Even though the mechanisms involved are different from those used to maintain a greenhouse at a comfortable temperature and humidity level, this cycle of emission, absorption, and reemission is often referred to as the greenhouse effect. The result of this natural greenhouse effect is a rise in the average surface temperature of the Earth from around 0 degrees Fahrenheit (-18 degrees Celsius) to almost 60 degrees Fahrenheit (15 degrees Celsius).

The temperature of the atmosphere drops with increasing altitude up to the tropopause, which is located between 8 and 10 miles above the surface. After that, temperatures begin to rise again in the stratosphere, which is warmed by the solar absorption that occurs in ozone (O3) molecules. This results in an additional warming influence. Because of this temperature structure, when the concentrations of greenhouse gases are increased and the atmosphere becomes more opaque to infrared radiation, the lower and warmer layers in the atmosphere are the ones responsible for the absorption and reemission of infrared radiation to the surface. This contributes to the acceleration of climate change. This has the effect of boosting the downward emitted radiation, which tends to augment the natural greenhouse effect. This is because the emission of infrared energy is proportional to the fourth power of temperature. When the quantities of greenhouse gases are raised, there is also an increase in the amount of emission that happens outward into space from higher and colder layers. As a consequence of this, the surface-atmosphere system has to warm up even more in order to create an energy balance with the radiation from the sun that is entering the planet.

Water vapour is considered to be the most significant radiatively active (or greenhouse) gas (to be radiatively active, molecules need to have at least 3 atoms so that various rotational and vibrational bands can be activated by the radiation). Not only does water vapour take in infrared radiation that is released by the surface of the Earth, but it also takes in infrared radiation that is emitted by the sun. In addition, if the circumstances are right, water vapour may condense into clouds, which then both take in and give out infrared radiation while also taking in and reflecting solar radiation. Other greenhouse gases in the atmosphere that are present in significant concentrations include watervapor, CO2, CH4, N2O, and many chlorofluorocarbons. The concentrations of all of these gases are being directly affected by human activities, with the exception of O3, whose tropospheric and stratospheric concentrations are being indirectly affected through chemical reactions caused by the emissions of other gases. In addition to watervapor, other greenhouse gases in the atmosphere that are present in significant concentrations include CO2, CH4, Because of their link to human activities, these greenhouse gases are often referred to as anthropogenic greenhouse gases. This is because the term "anthropogenic" means "caused by humans" (strictly speaking, their concentrations are being anthropogenically modified).

The increasing quantities of manmade greenhouse gases are plainly indicating, according to observations made by devices situated in space, that there is a tendency for the natural greenhouse effect to become more pronounced. Even if the positive greenhouse effect of atmospheric water vapour is greater than the anthropogenic greenhouse impact of greenhouse gases, the anthropogenic greenhouse gases' influence is not completely swamped by the positive greenhouse effect of atmospheric water vapour. Instead, a positive water-vapor feedback mechanism is considerably amplifying the warming that is induced by the increases in concentrations of CO2, CH4, and other human greenhouse gases. This is causing global temperatures to rise.

Because a warmer atmosphere can hold more water vapour than a cooler one, the warming itself leads to a rise in atmospheric water vapour and a further warming of the atmosphere. This is an example of a positive feedback loop. However, changes in atmospheric water vapour and in atmospheric circulation can cause changes in the extent and distribution of clouds. This, in turn, can affect the amount of solar radiation that is absorbed and scattered, as well as the amount of infrared radiation that is absorbed and reemitted, through relatively complex and uncertain cloud feedback mechanisms. The scientific community agrees, on the whole, that an increase in the atmospheric concentrations of anthropogenic greenhouse gases will tend to raise the average surface temperature of the Earth; the main questions that remain to be answered are how much and how quickly this temperature increase will occur.

Since the beginning of the industrial revolution, there has been an increase in the concentration of greenhouse gases, which is already causing changes in the climate and contributing to global warming.

Since the beginning of the Industrial Revolution, there has been a discernible increase in the concentrations of greenhouse gases, and there is compelling evidence to suggest that this trend will continue, which suggests that rising concentrations of greenhouse gases will have a warming effect on the climate of the Earth. To determine whether or not the time history and magnitude of climatic changes that are occurring match those expected to be occurring, based on theoretical and numerical analyses, as a result of past emissions and the changes that these emissions caused in atmospheric composition, a key test of scientific understanding is to determine whether or not this is the case. This study is made more difficult by the fact that the climate may also be influenced by other factors that have an effect on the Earth's radiation balance. These factors are referred to as radiativeforcings. These radiativeforcings include natural influences, such as changes in the output of solar radiation or in stratospheric particle loadings caused by volcanic eruptions, and human-induced changes, such as the depletion of stratospheric ozone, the enhancement of tropospheric ozone, changes in land cover, and changes in the amount of aerosols in the atmosphere. Other radiativeforcings include natural influences, such as variations in the output of solar radiation or in Examining the climatic data that have been kept the longest is the most helpful thing to do if you want the greatest chance of determining whether or not human activity has had an effect on the climate. The middle of the 19th century was when the first instrumental records of the average temperature for significant portions of the Earth were kept. According to these data, the temperature rose by more than 1 degree Fahrenheit (approximately 0.6 degrees Celsius) throughout this time period. Extensive proxy records (i.e., records derived from tree rings, ice cores, coral growth, and other such things) for the Northern Hemisphere going back approximately 1000 years also indicate very significant warming during the 20th century in comparison to the natural variations apparent over earlier centuries. Figure 1c demonstrates that a significant increase in temperature first manifested itself in the latter part of the 19th century and persisted throughout the 20th century. This warming appears to be much more persistent than the natural fluctuations that occurred in the past. These natural fluctuations were most likely caused by the inherent natural variability of the ocean-atmosphere system (also known as internal variability), as well as the natural variations in solar radiation and the occasional eruption of volcanoes. This warming appears to be much more persistent than the natural fluctuations that occurred in the past (i.e., external variability). Rising temperatures measured in boreholes (i.e., dry wells), retreating mountain glaciers and sea ice, increasing concentrations of atmospheric water vapour, rising sea level due to melting of mountain glaciers and thermal expansion in response to recent warming (adding to the natural rise due to the long-term melting of parts of Antarctica), and related changes in other variables all provide additional evidence that warming is occurring.

The most important issue to ask is whether these shifts might be the result of natural fluctuations or if the activities of humans are having a substantial role in causing them. The warming of the lower atmosphere and cooling of the upper atmosphere (a sign of a change in greenhouse gas concentrations rather than in solar radiation), the global pattern of warming, and the coincidence in timing with the changes in greenhouse gas concentrations are some of the reasons why the effect is being attributed largely to human activities. Other reasons include the very large and unusual magnitude of the changes compared to past natural fluctuations, the warming of the lower atmosphere and cooling of the upper atmosphere, and the global pattern of warming. Because part of the warming took place before the steepest spike in greenhouse gas concentrations during the second half of the 20th century, there is some room for doubt. Although other causes, such as shifts in land cover or increases in soot emissions may also have had an impact, some calculations suggest that anywhere from 20 to 40 percent of the total warming may be attributable to a coincidental increase in solar radiation. In addition, there is a degree of uncertainty since the increase in surface temperatures during the previous two decades may have occurred at a little slower rate than the growth in tropospheric temperatures over the same time period. It is not yet known whether this difference is due to natural variations in Earth's surface temperatures, issues with the satellite instrumentation's calibration, the confounding influences of ozone depletion, volcanic eruptions, and atmosphere-ocean interactions, or other factors. However, it is possible that these factors are all contributing to this difference.

The Intergovernmental Panel on Climate Change (IPCC, 1996a) came to the conclusion in its Second Assessment Report in 1995 that "The balance of evidence suggests a discernible human influence on the global climate." This conclusion was reached after taking into account all of the scientific findings that were available at the time. This judgement, in its core, is analogous to the criteria for a civil conviction rather than a criminal one. The Intergovernmental Panel on Climate Change (IPCC) indicated even more clearly in its Third Assessment Report (IPCC, 2001) that the magnitude and timing of the warming that occurred during the 20th century, especially during the last 50 years, quite closely matches what would be expected from the combined influences of human and known natural influences. This statement was made in the context of the IPCC's conclusion that the 20th century was the warmest century on record.

IV. Causes of Global warming

The emission of greenhouse gases is the primary contributor to the warming of the planet. Carbon dioxide, methane, and nitrous oxides are some of the gases that fall into this category. In certain situations, compounds including chlorine and bromine are also included. The increased concentration of these gases in the atmosphere causes a shift in the radiative balance that exists in the atmosphere. Because greenhouse gases absorb part of the heat that the Earth emits into space and then re-radiate it in the direction of the surface, their overall impact is to cause the surface of the Earth and the lower atmosphere to become warmer. Between the years 1850 and the end of the 20th century, there was a net warming that was equivalent to nearly 2.5 W/m2. Carbon dioxide was responsible for approximately 60% of this figure, while methane was responsible for approximately 25% of this figure, and nitrous oxides and halocarbons provided the remainder. Joe Farman, who worked for the British Antarctic Survey, authored a paper that was published in 1985 that demonstrated the decline in ozone levels that occurred over Antarctica in the early 1980s. The reaction was striking: large-scale worldwide research programmes were created to show that CFCs were the source of the crisis. CFCs are utilised as aerosol propellants in industrial cleaning fluids and in refrigeration instruments. An immediate response from the worldwide community to reduce emissions of CFCs was even more crucial.

The thinning of the ozone layer is the second leading contributor to the phenomenon of global warming. The presence of source gases that include chlorine is primarily responsible for this phenomenon. The presence of UV light causes these gases to dissociate, which results in the release of chlorine atoms, which subsequently catalyses the breakdown of ozone. The climate is being altered in two distinct ways due to the presence of aerosols in the atmosphere, which is also contributing to global warming. In the first place, they are responsible for the scattering and absorption of solar and infrared light. Secondly, they have the potential to change the microscopic and chemical characteristics of clouds, which might in turn impact the clouds' longevity and extent. Instead of allowing sunlight to be absorbed by the surface of the Earth, solar radiation may be scattered, which has the effect of cooling the globe. Solar radiation can also be absorbed by aerosols, which has the effect of warming the air directly. There are several different ways in which humans contribute to the total quantity of aerosols that are present in the atmosphere. A common example of a by-product of agricultural activity is dust. The combustion of biomass results in the production of both organic droplets and soot particles. Aerosols may be produced by a broad variety of industrial processes, and the types of aerosols produced depend on what is being burnt or manufactured during the production process. In addition, the exhaust emissions that are produced by the different forms of transportation create a diverse assortment of pollutants that are either aerosols from the beginning or are changed into aerosols as a result of chemical processes that take place in the atmosphere [8].

The Impacts of Climate Change on Humanity

Researchers in the field of climate study are up against one of the most challenging challenges there is: predicting the effects of global warming. This is because the natural processes that create things like rain, snowfall, hailstorms, and rises in sea levels are dependent on a wide variety of different elements. In addition, the volume of emissions of greenhouse gases in the years to come is very difficult to forecast due to the fact that this is mostly affected by the development of new technologies and the choices made by political leaders. The repercussions of global warming, some of which are discussed below, are widespread and devastating. First, the more water vapour that is present in the sky eventually condenses and falls back to the ground as rain, which causes flooding in many different parts of the globe. The rate at which water evaporates from the land and the sea increases as the temperature outside rises. This results in drought in areas where the higher evaporation process is not balanced out by increased precipitation. This may cause crop failure and hunger in some parts of the planet, especially in regions where temperatures are already already high. The increased amount of water vapour in the sky will eventually condense into rain, which will ultimately lead to flooding. It is possible for towns and villages that are reliant on the water that melts off of snowy mountains to experience drought and a lack of available water supplies. This is due to the fact that glaciers all around the globe are receding at a very quick pace, and the rate at which ice is melting looks to be more rapid than was originally anticipated. The Intergovernmental Panel on Climate Change (IPCC) estimates that around one-sixth of the world's total population lives in places that will be impacted by a drop in the amount of water that is melted by glaciers. The warmer environment will almost certainly result in an increase in the frequency of heat waves, an increase in the intensity of rainfall, as well as an acceleration in the severity of hailstorms and thunderstorms. The most dangerous effect of global warming is the fast rise in sea levels, which is being caused by the melting of ice sheets and glaciers as a direct result of the temperature increase. This will result in an increase in the water level of all bodies of water, including oceans, rivers, and lakes, which might trigger devastating floods.

As can be seen in Figure 3, it is anticipated that there will be an increase in the occurrence of temperature outliers in the following years. Before the 20th century, the situation was largely under control; however, towards the beginning of this century, the condition began to deteriorate. Currently, the issue is becoming worse. All of this was caused by an increase in global warming, which was primarily caused by the fact that new factories and power plants went into operation and began emitting hazardous gases, which cause the world to warm up. This information originates from the study that was conducted by a variety of climate and environmental research organisations.

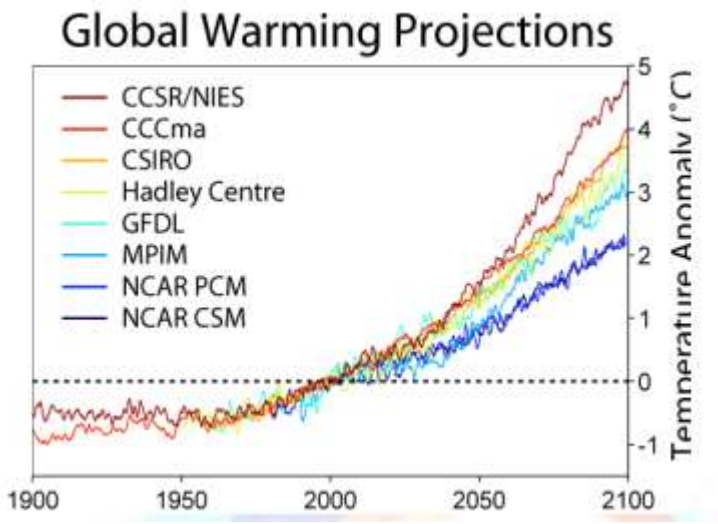
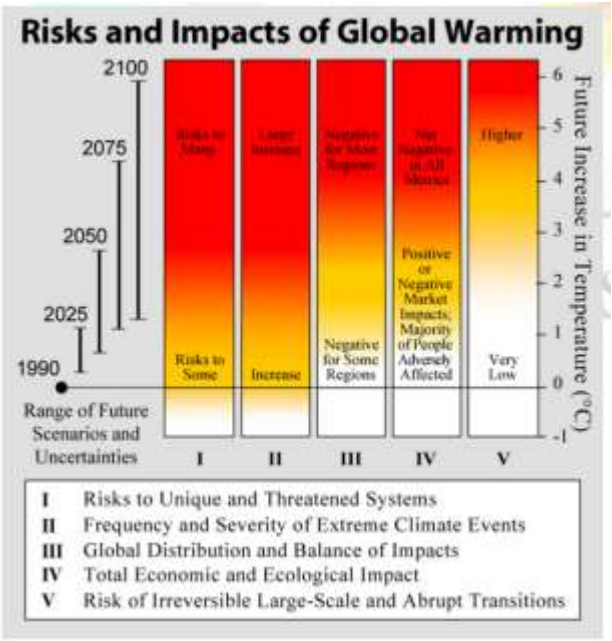


Fig. 3 Global warming projections by various Science and Engineering research agencies [9]

In a similar vein, Fig.4 elucidates the dangers and effects that will result from global warming in the years to come. As can be concluded from the image, we are now enduring severe occurrences of extreme weather in the form of thunderstorms, floods, and earthquakes. These occurrences are occurring more often as well. If nothing is done to put a halt to this threat, the level of damage will increase dramatically. According to the National Aeronautics and Space Administration, Fig. 5 displays the worldwide mean temperature during the course of the most recent years (NASA). The tendency blatantly raises a significant concern for us to consider. Given the inevitable increase in temperature, how are we going to continue living on this planet?



An analysis of the relative impacts and dangers that are associated with global warming is shown in Figure 4. The evaluation focuses on five different criteria. The bars have been color-coded to indicate the amount of effect or worry associated with each component as a function of the rise in temperature.

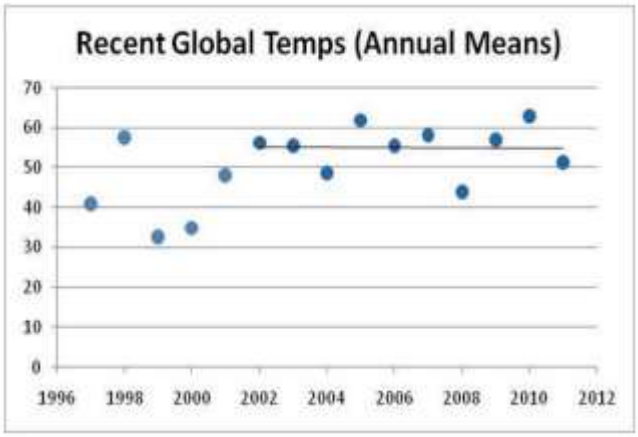


Fig. 5 Recent global mean temperatures according to NASA

VI. Effects on Living Beings

Warming caused by human activity may have a devastating effect on the health of living things. Stress is a known contributor to both high blood pressure and heart disease, and excessive heat may exacerbate both conditions. A decrease in the human body's resistance to viruses and diseases may be one of the direct consequences of the warming of the globe. Crop failures and famines are direct consequences of this warming. As a result of global warming, people will move from places with higher temperatures to regions with temperatures that are lower on average. This might result in the spread of a number of illnesses to other locations. Some kinds of seafood may be contaminated with hazardous bacteria as a result of warming seas and other surface waters. This might result in widespread outbreaks of cholera.

In addition, it is a well-known fact that exposure to higher temperatures may promote dehydration, which is one of the primary reasons why people get kidney stones. In conjunction with meteorological data, a group of doctors from The Children's Hospital of Philadelphia evaluated the health histories of over 60,000 individuals in the United States. They observed that three days following a spike in temperature, a person's risk of being hospitalised with kidney stones increased to its highest level. Since 1994, the prevalence of kidney stones has increased from around one in every 20 patients to one in every 11. The warming of the planet is anticipated to have an amplifying effect on this pattern. "One infection that is definitely making a weird pattern is valley fever," said Luis Ostrosky, M.D., of the Division of Infectious Diseases at The University of Texas Health Science Centre at Houston Medical School, who is also the medical director for epidemiology at Memorial Hermann-Texas Medical Centre. According to what he had to say on the matter, "This is a fungal illness that we used to find exclusively in California, Arizona, New Mexico, and a bit in Texas, but last year we identified it for the first time in Washington State." The alarming rise in the number of reported instances of this potentially lethal illness in the state of California over the years 2010 and 2011 prompted residents to feel uneasy. The number of people infected with valley fever has been rising, most likely as a result of warmer temperatures and droughts that create dust storms. The spores that cause the virus may be carried by the wind and dry soil. Due to warmer and longer summers, it is expected that regions that are hotter and drier may lead to an increase in mosquito-borne diseases such as dengue fever and malaria. Already, there has been a significant rise in the number of cases of West Nile Virus, which is often considered to be the most serious illness spread by mosquitoes. The Centers for Disease Control and Prevention in the United States report that the West Nile virus season that occurred during the summer of 2012 was the worst on record. It is quite probable that the blazing heat and dryness of the summer were the cause. Another potentially fatal illness is called Lyme disease, and it is passed on mostly via the bites of certain kinds of ticks [12]. In the form of a block diagram, Figure 6 illustrates how changes in the global climate may have an impact on the health of individuals. The fact that it is capable of causing a variety of ailments and depriving people of their meals is the most upsetting aspect of the situation.

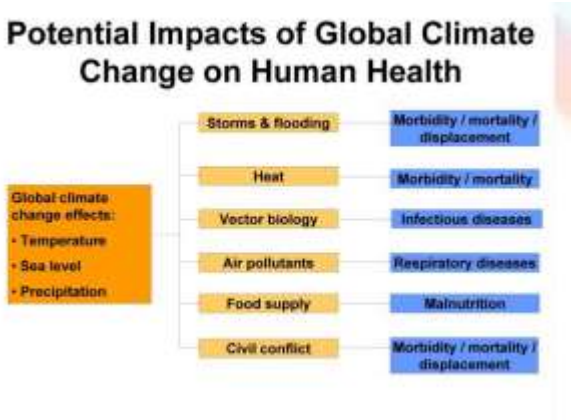


Fig.6 Potential impacts of global climate change onhuman health [13]

Animals are also being impacted by the effects of global warming. They can only live by moving to locations where the temperature is lower. This process has been seen taking place in a variety of locations, including the Alps, the hilly state of Queensland in Australia, and the foggy woods of Costa Rica, to name a few. It has been observed that fish in the North Sea are migrating in the same direction. The affects on species are becoming so remarkable that their migrations might be used as an indication of a warmer planet. This is

because the repercussions are becoming more noticeable. They are the oblivious observers of the rapid alterations that are being perpetrated on the Earth. Scientists and other researchers have come to the conclusion that global warming is progressively wreaking havoc on the ecosystems of a wide variety of species and is playing a highly destructive role in driving them to extinction. For example, Asia's lone ape, the orang-utan, is in grave danger due to deforestation and habitat loss. Its only surviving strongholds are in the rainforests of Indonesia, but they are under threat from a variety of forces, including climate change, which puts the species at risk of being extinct within a few decades at the earliest. The length of time that droughts last and the number of times they occur are both rising as a direct result of global warming. As a result, bushfires are happening more often in these severely logged forests, significantly reducing the orang-available utan's dwelling space. In a similar vein, elephants in Africa are confronted with a number of dangers, one of which is the decreasing of their dwelling territory, which increasingly often leads them into conflict with humans. Elephants will be unable to avoid any changes to their natural environment that are induced by global warming, including more frequent and longer dry spells, which will place further strain on their ability to survive. This will restrict the amount of living area available to elephants.

VII. Non-Conventional Types of Energy Sources

The dangers posed by climate change are of an extremely high order. The overexploitation of fossil resources like coal, natural gas, and oil also contributes to the problem to some extent. Immediately putting an end to the use of fossil fuels is the best course of action. The use of different kinds of energy is the most important step that can be taken to put an end to this catastrophe. Wind, solar, biomass, geothermal, and hydropower are all forms of renewable energy. The fact that these sources are free of contamination is the most important benefit of utilising them. They do not generate any kind of pollutants or hazardous gases that might contribute to the warming of the planet. They are safe for the environment and won't upset the delicate balance of the ecosystem in any way. Yet, the high costs of installation and setup associated with them may initially discourage energy firms from using them; however, in the long term, it is likely that they will be advantageous for everyone. Most significantly, fossil fuels will run out at some point in the future, which means that we will have no choice but to switch to producing energy from renewable sources sooner rather than later. Therefore, the use of alternate forms of energy is the long-term answer to the problem of global warming. Figure 7 is a visual representation of how the planet may be protected from the dangers of global warming if we make use of alternative, renewable sources of energy.

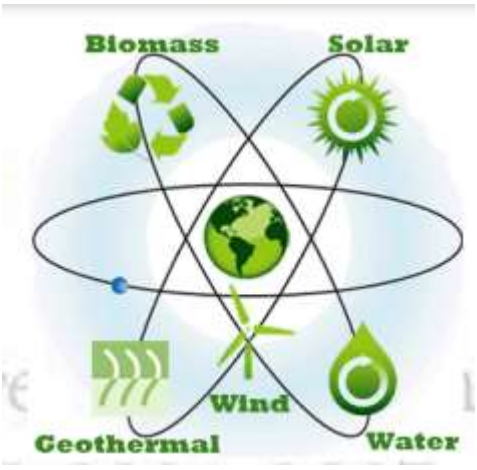


Fig. 7Save earth from global warming by using renewable energy sources

It is very necessary to switch to renewable sources of energy in order to mitigate the adverse health effects of global warming. The public as a whole has to learn to make responsible choices when it comes to the ways in which they save energy. Because of this, our children and grandchildren will inherit an environment that is both wholesome and consistent. It is the responsibility of governments to develop and enact laws that promote the use of renewable energy sources rather than traditional energy sources, both by individuals and by energy firms. Individuals should be given brochures by nongovernmental organisations (NGOs) that encourage them to adopt alternative sources of energy and discourage them from using fossil fuels. These pamphlets should be distributed to people. They should also explain to them the dangers that would result from the use of fossil fuels in their everyday lives. Numerous affluent nations are currently producing enormous quantities of electricity utilising renewable sources of energy. These nations need to lend a helping hand to those nations who are still in the process of growing in order to tackle the evil of global warming jointly. Utilizing alternative sources of energy is the most efficient strategy to reduce emissions of greenhouse gases, which are a significant contributor to the phenomenon of global warming.

Both Figure 8 and Figure 9 illustrate how the use of renewable resources is steadily growing. The number need to be far higher than it is at the moment in order for us to be able to deal with the issue of global warming in a timely and efficient manner.

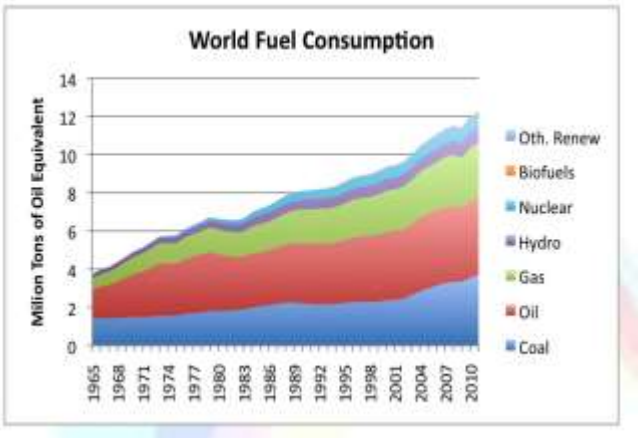


Fig. 8 World fuel consumption in recent years

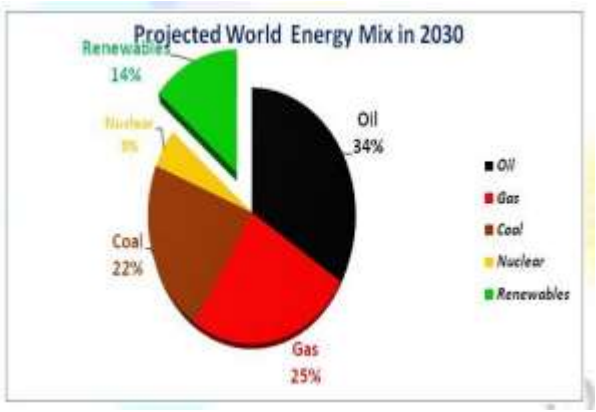


Fig .9 Projected world energy mix in 2030

GLOBAL WARMING CONTROL

The increase in temperature that is caused by global warming may have an influence on changes in the atomic characteristics of many elements, such as motion, valency, magnetic, electrostatic, conduction, electronic structure, crystalline structure, electropositivity and electronegativity, and so on. Also, this global warming has a significant influence on the magnetic of the globe, gravity, the melting of ice, the overflow of seawater, changes in the weather, disease-causing bacteria and virus explosions, and other related phenomena. Human and plant life will be severely impacted as a result of changes in the atomic nature and qualities brought on by an increase in temperature, which will also bring about a huge issue in the form of natural pollution. As a result, we need to exercise more caution in order to keep the earth's natural temperature and pressure at a consistent level over the whole planet. In order to effectively combat pollution, it is essential that we establish a completely risk-free zone both inside and outside the manufacturing facility. The patterns of our lives these days are challenging ones, and the topic of global warming is surrounded by a great deal of intricacy. Industries, refineries, excessive electromagnetic wave propagation through the air, transport vehicles (road and airways), and the rapid growth of entertainment equipment such as air conditioned (A.C.) machines, refrigerators, televisions, mobile phones, computers, MP3, CD, DVD-players, and the like are the primary causes of an increasing environment temperature. Our bodies and thoughts are not collaborating in a manner that is seamless and natural in order to provide the highest quality output in our various occupations.

Conclusion

At the Earth Summit that was held in Rio de Janeiro in 1992 with the purpose of lowering emission of CO2 and other greenhouse gases, 153 countries came to an agreement and decided to sign a convention on climate change (2009 A.D) The high-level government leaders of all nations, including presidents, prime ministers, and others, gathered in Copenhagen for the World Climate Summit to discuss ways to reduce the effect of greenhouse gases. Industrialization (Industry should grow with minimum working space effecting least environment pollution) and Naturalization (Maximum portion of the earth must be covered with either agricultural green trees or clean water) must therefore be provided side by side in order to control global warming. At the same time, people must cut back on all types of entertainment equipment and find alternative sources of energy such as renewable energy, manufacturing fuel, or alternative fuel. "Dao phire se aranya, lao a nagar," which translates to "Give back those woods, take these cities," is the last demand made by Tagore, who was awarded the Nobel Prize in Literature. It is a symptom that our city-oriented, industrial way of life is destroying the natural climate and woods that are located all around us; as a consequence, the temperature of the environment is fast increasing. Therefore, it is of the utmost importance to preserve natural harmony and to restore tree plantations and the development of green forests to their pre-industrial levels while minimising the amount of damage caused by industrial waste. The rate of warming of the planet may be slowed down or kept relatively steady if we proceed in this manner.

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