



Effect of Global Warming on the Earth

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Abstract

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. The principle part of the atmosphere would only be about as thick as the skin of an onion. Realizing this, possible things by human beings can change the climate. It is believed that human beings are responsible for increasing in fossil fuel combustion. This enormous input of carbon dioxide is causing the atmospheric levels of carbon dioxide to rise dramatically. Changes in patterns of rainfall, droughts and fires in some areas, flooding in other areas has increased likelihood of extreme events such as flooding, hurricanes, etc. The effects of increasing temperatures aren't waiting for our far-flung future. They're occurring right now. Signs are happening all over, and some of them are surprising. Melting of ice is high, especially more at the Earth's poles. Hurricanes and other storms are likely to become stronger. Ecosystems will change some species, some won't be able to move and some could become extinct. Most of the world's population lives on or near the coasts. Rising of ocean levels, will cause massive devastation and economic catastrophe to population centers worldwide. A rapid transition to energy efficiency and renewable energy sources will combat global warming, protect human health, create new jobs, protect habitat and wildlife, and ensure a secure, affordable energy future. It's not just an environmental issue, but it affects our public health and national security.

It's an urgent matter of survival for everyone on the planet which is the most urgent threat facing by human beings today. Taking action from all of us working together can save our earth planet.

Keywords: Global warming, Planet, Human Health.

Introduction

Global warming is the recent increase in the average air and ocean temperature of the Earth as well as its expected continuation. Natural events like volcanoes and solar changes have caused small rise in temperatures over time, many believe that greenhouse gas emissions have a large part in this and that even if the emission levels stabilize, temperatures may continue rising for another thousand years or more. It is projected by the Intergovernmental Panel on Climate Change (IPCC) that the average global surface temperature will probably rise drastically. Evidence of climate change includes the instrumental temperature record rising sea level, and decreased snow cover. Projection of future climate change suggests further global warming, sea level rise, and an increase in the frequency of some extreme weather events. The future level of global warming is uncertain.

Human activities have contributed to a number of observed changes in climate. This contribution has principally has been through the burning of fossil fuels which has led to an increase in the concentration of green house gases in the atmosphere. Another human influence on the climate is sulphur dioxide which is precursor to the formation of sulphate aerosols in the atmosphere. The effect of human activities on the climate systems can be measured by radioactive forcing. Energy is constantly flowing into the atmosphere in the form of sunlight that always shined on half of the earth's surface. Some of this sunlight is reflected back to space and rest is absorbed by the planet. Some energy from the earth is also radiated back out into space as invisible infrared light. The energy flows from the sun and re-radiation from the earth achieve a balance carbon dioxide tends to remain fairly constant and therefore behave as a controlling factor, rather than a reacting factor.

The principle part of the atmosphere would only be about as thick as the skin on an onion realizing this makes it more plausible to suppose that human beings can change the climate. Global Warming is the increase of average surface temperature of the Earth due to effect of

greenhouse effect gases, such as carbon dioxide emitted from burning fossil fuels or from deforestation, which entrap heat that would otherwise break away from Earth which results in Greenhouse Effect. Increasing temperatures can lead to rising sea levels, extreme weather events and changes in precipitation. Global warming can also affect agriculture and glacier retreat and can facilitate the spread of disease and the extinctions of species.

Causes

The most significant greenhouse gas is actually water vapor, not something produced directly by humankind in significant amounts. However, even slight increases in atmospheric levels of carbon dioxide (CO₂) can cause a substantial increase in temperature. The concentrations of these gases are not nearly as large as that of oxygen and nitrogen (the main constituents of the atmosphere), neither oxygen nor nitrogen are greenhouse gases. This is because neither has more than two atoms per molecule (i.e. their molecular forms are O₂ and N₂, respectively), and so they lack the internal vibrational modes that molecules with more than two atoms have. Both water and CO₂, have these "internal vibrational modes", and these vibrational modes can absorb and reradiate infrared radiation, which causes the greenhouse effect.

Secondly, CO₂ tends to remain in the atmosphere for a very long time (time scales in the hundreds of years). Water vapor, on the other hand, can easily condense or evaporate the energy flows from the Sun and re-radiation from the Earth achieves a balance. CO₂ tends to remain fairly constant and therefore behave as a controlling factor, rather than a reacting factor. More CO₂ means that the balance occurs at higher temperatures and water vapor levels. The increase in carbon dioxide actually began with following deforestation of much of Northeastern American and other forested parts of the world. The sharp upswing in emissions during the industrial revolution further added to this, leading to a significantly increased carbon dioxide level. Polar bears are now thought to be greatly endangered by the shortening of their feeding season due to dwindling ice packs.

- Melting glaciers - significant melting of old glaciers is already observed.
- Widespread vanishing of animal populations --- following widespread habitat loss.
- Spread of disease --- migration of diseases such as malaria to new, now warmer, regions.

- Bleaching of Coral Reefs due to warming seas and acidification due to carbonic acid formation --- One third of coral reefs now appear to have been severely damaged by warming seas.
- Loss of Plankton due to warming seas --- The enormous (900 mile long) Aleution island ecosystems of orcas (killer whales), sea lions, sea otters, sea urchins, kelp beds, and fish populations, appears to have collapsed due to loss of plankton, leading to loss of sea lions, leading orcas to eat too many sea otters, leading to urchin explosions, leading to loss of kelp beds and their associated fish populations.
- Rising Seas--- inundation of fresh water marshlands (the everglades), low-lying cities, and islands with seawater.
- Changes in rainfall patterns --- droughts and fires in some areas, flooding in other areas Increased likelihood of extreme events--- such as flooding, hurricanes, etc.
- Deforestation and climate change are intimately connected. Globally, deforestation releases nearly 2 billion tons of carbon dioxide per year, and is responsible for nearly 25 percent of man-made CO₂ emissions. The destruction of the world's forests not only harms the communities that depend on them, but increasingly affects us all.

Global warming skeptics also argue that natural climate fluctuation, not human activity, is responsible for the past century's rising temperatures. Increasing temperatures can lead to rising sea levels, extreme weather events and changes in precipitation. Global warming can also affect agriculture and glacier retreat and can facilitate the spread of disease and the extinctions of species.

Effects

Global warming shows some of the effects on various aspects

Effects on weather

The effects of Global warming are the ecological and social changes caused by the rise in global temperatures Projections of future changes in precipitation show overall increases in the global average, but with substantial shifts in where and how precipitation falls. Climate models tend to project increasing precipitation at high latitudes and in the tropics (e.g., the south-east monsoon region and over the tropical Pacific) and decreasing precipitation in the sub-tropics Human

activities have, with varying degrees of confidence, contributed to some of these observed trends. Projections for the 21st century suggest continuing changes in trends for some extreme events

- an increase in the areas affected by drought;
- high tropical cyclone activity and sea level (excluding tsunamis).

Projected changes in extreme events will have predominantly adverse impacts on ecosystems and human society. This widespread decrease in glaciers and ice caps had contributed to observed sea level rise.

- Mountainous areas in Europe will face glacier retreat
- In Polar Regions, there will be reductions in glacier extent and the thickness of glaciers.
- More than one-sixth of the world's populations are supplied by melt water from major mountain ranges. Changes in glaciers and snow cover are expected to reduce water availability for these populations.
- In Latin America, changes in precipitation patterns and the disappearance of glaciers will significantly affect water availability for human consumption, agriculture, and energy production.

Volcanoes

Volcanoes affected global warming for the past over millions of years. When volcanoes causes they release various gases into the atmosphere. During eruption of volcanoes gases or dust is released causing temporary cooling. Particles of larger size have little effect as they quickly fall on the earth surface, whereas small particles holds in the clouds causing sunlight blocking and this effect shows the earth is cool for more number of years. More volcanoes increase the carbon dioxide concentration in the atmosphere causing global warming. The large volcano's eruption also shows greater impact on the sea level change.

Oceans

Oceanic effect as produced by global warming. Melting of ice, ocean surface warming, sea levels rising, glaciers melting, expansion of thermal bodies causes the air to be cooler near the poles than at the equator. Oceanic effect is a complex one. High levels of carbon dioxide increase

ocean acidification. The heat has been increased levels of green house gases changing the whole climate. The oceans have also acted as a sink in absorbing extra heat from the atmosphere. This extra heat has been added to the climate system due to the build-up of green house gases.

Acidification

About one-third of the carbon dioxide emitted by human activity has already been taken up by the oceans. As carbon dioxide dissolves in sea water, carbonic acid is formed, which has the effect of acidifying the ocean, measured as a change in pH.

Oxygen Depletion

The amount of oxygen dissolved in the oceans may decline, with adverse consequences for ocean life. There is strong evidence that global sea level rose gradually over the 20th century. There are two main factors that have contributed to observed sea level rise. The first is thermal expansion: as ocean water warms, it expands. The second is from the contribution of land-based ice due to increased melting.

Regions

Global warming will change the Particular Ocean current or climate change globally resulting in increase in temperature and melting of ice. Global warming affects the nature in particular regions depending upon the climate change, with these periodical changes in the climate, change in currents in the ocean and atmosphere flow, sea level rise etc. The regional effect of various climatic changes in ocean currents leads to regional climate changes in global warming.

Measures to Fight against Global Warming

CO₂ and other air pollutants collect in the atmosphere, trapping in the sun's heat. Few steps to fight against Global warming:

- Compact Fluorescent bulbs can be used instead of traditional light bulbs. This will help in global warming and also they last longer.

- When we don't need the lights in the room we should switch off the lights. This will save the currency of our own and nation economy also.
- When computer is not used we should unplug it.
- Limited use of dryer.
- Design the windows in such a way to maintain more heat in the house.
- Well designed insulated house walls.
- Replace those old energy inefficient appliances, in favour of newer ones that use less energy.
- Insulate your water heater, and turn it down to 120 degrees Fahrenheit.
- Switch to a tank less heater. Water will be heated as needed, instead of keeping a tank of heated water.

Apart from this measures should be taken for stopping deforestation and green house gases.

While the root causes of deforestation vary from region to region, there are some common solutions. Communities need seeds, training, and technical support in order to adapt long-standing cultural and agricultural traditions (such as gathering fuel wood in nearby forests and practicing slash-and-burn agriculture) to new realities. Starting nurseries and planting trees is part of this process.

The effect of global warming shows very adverse conditions. These adverse effects can be seen on human life much effectively change the form, structure and development. Melting of polar ice caps, levels of sea rises rise in temperature and also the survival of species which are adaptable causing hurricanes, poor economy etc. Many countries have been working to reduce greenhouse gas emissions to prevent global warming; some have signed and ratified the Kyoto Protocol for this purpose.

Conclusion

The global warming issue has become a somewhat important part of the upcoming presidential campaign, with questions directed toward candidates concerning what they plan to do about it. Richer countries would need to put forward money to set up the mechanisms such as a satellite monitoring service to ensure countries being paid not to chop down trees are keeping their

promises. There will also need to be cash to help provide alternative incomes for people in and around the forests.

Politicians, the media, big business, scientists, and environmentalists all play conflicting roles in the global warming debate as public policy collides head-on with special interests and a complex scientific theory.

It is not too late. We are solution-oriented people. We have developed programs that work, which are restoring trees and forests to degraded lands. We are working with individuals, communities, and other organizations around the world with a shared vision for a positive change. We are a hands-on people-to-people program at the grassroots level.

If we continue to use fossil fuels in the way we presently do, then the amount of carbon we will release will soon exceed the amount of carbon in the living biosphere. This is bound to have very serious, very negative effects, some of which, such as lowering the pH of the ocean such that coral cannot grow, are already well known.

A lot of people are concerned that global warming may mean the end of the world; some consider it “doomsday.” Environmental groups have launched campaigns to inform people of the possible effects of global warming.

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