

Now more than ever humans are becoming a major factor in the future of climate and more importantly climate change. Human actions towards the earth and the depletion of the ozone layer are irreversible. A warmer future could result from human activities in the present by releasing massive amounts of heat trapping gases into the air. (www.mauai.net) These greenhouse gases are partially the reason for the 0.5°C rise in the global average temperature recorded over the past 100 years. If the Earth's temperature continues to rise as estimated, global warming could occur more rapidly than any climate change of the last 10,000 years. (www.mauai.net) Fossil fuels, which release carbon dioxide when burned, are used to generate electricity, heat and light homes and workplaces, power factories and run cars. The future of Earth's climate may depend partly on the buildup of heat trapping gases, mainly carbon dioxide, methane, and nitrous oxide, in the atmosphere. Industrialized nations are known to release the most carbon dioxide. Is there an alternative to this pollution and soon, disaster? In order for us to understand the immensity of this problem, we must look at what causes global warming, what is being done to stop the problem, consequences of this issue, and how we can prevent it.

Global warming occurs when there is a depletion of the ozone layer and the earth's temperature begins to get warmer as a result of the heat trapping abilities of greenhouse gases. The glass panels of a greenhouse and the Earth's atmosphere are both transparent to sunlight, and both trap heat(www.mauai.net). Atmospheric greenhouse gases trap some of the outgoing energy, retaining heat like the glass panels of a greenhouse, therefore, creating the greenhouse effect. At the moment, the earth appears to be facing rapid warming, which most scientists believe results, at least in part, from human activities. The main cause of this warming is thought to be the burning of fossil fuels, such as coal, oil, and natural gas, which releases into the atmosphere (www.mauai.net) As the atmosphere contains more and more of these gases, it becomes a better insulator, holding more of the heat provided to the planet by the Sun. With years of abuse and neglect, this matter will only worsen. Many feel that Global warming is inevitable, and that the climate will change regardless of how cautious we are. This is partly true, climate does change all the time, but the change is slow and constant. We are doing it at enormous speeds, 60 times faster than expected.(Science news)

All life on Earth relies on the greenhouse effect, without it, the planet would be colder by about 33 degrees, and ice would cover the entire Earth. However, a growing excess of greenhouse gases in Earth's atmosphere threatens to head in the other direction, toward continual warming. Carbon dioxide is the most abundant greenhouse gas followed by methane and nitrous oxide. Carbon dioxide flows into the atmosphere from many natural processes, such as volcanic eruptions, the respiration of animals, and the burning or decay of organic matter, such as plants. (www.mauai.net) Humans increase the amount of carbon dioxide released to the atmosphere by the burning of fossil fuels, solid wastes, and wood products. (www.mauai.net) At the same time, the number of trees available to absorb carbon dioxide through photosynthesis has been reduced by deforestation. Methane is an even more effective insulator, trapping over 21 times more heat than carbon dioxide. Nitrous oxide is a powerful insulating gas released primarily by burning fossil fuels and by plowing farm soils. Nitrous oxide traps over 270 times more heat than does the same amount of carbon dioxide. Since the beginning of the industrial revolution, atmospheric concentrations of carbon dioxide have increased nearly 30%, methane concentrations have more than doubled, and nitrous oxide concentrations have risen by about 15%. (www.mauai.net) These increases have improved the ability of the earth's atmosphere to trap heat.

During the industrial revolution we began to slowly alter our climate and environment by changing agricultural practices and industrial practices. These new practices have caused a change in the chemical composition of the atmosphere through the build-up of greenhouse gases. Due to the growth of the world's population and the nations economies, and the use of technology also growing, the global temperature is expected to continue to increase by an additional 1.0 to 3.5 degrees by the year 2100.(Winnipeg Sun) This seemingly subtle change in the global temperature could prove to have terrible results. We are altering the environment faster than we can possibly predict the consequences. This is definitely going to lead to some surprises. The earth's temperature would rise on its own, but that takes thousands of years, we are doing it in a century.(www.mauai.net) The world is rapidly changing.

The developed countries