

## Global warming returns after two-year hiatus

*Instructions: Read the following article about climate change and make sure you understand the words highlighted in blue.*

Climate data released in January 1995 shows that the earth is once again getting warmer. This trend, called global warming, first gained international attention in the late 1980s. For much of that decade, the earth's temperature was warmer than average. By 1990, the global average temperature reached 59.8 degrees Fahrenheit. This was the highest temperature recorded since 1880, the year in which climate records were first kept.

From 1991 through 1993, however, a two-year cooling period occurred. This was precipitated by the mid-1991 eruption of the Mount Pina tubo volcano in the Philippines. The eruption spewed dust and sulfur particles into the earth's atmosphere. These particles reflected the sun's heat and allowed the earth to cool. With much of this atmospheric dust now settled back to the ground, global warming has resumed.

Although climatologists agree that a warming trend is under way, not all of them agree on its cause or its significance. Over the past 100 years, the earth has warmed about one degree Fahrenheit. This, say some scientists, is a very slight increase. Therefore, they believe the warm temperatures are caused merely by a natural fluctuation in the earth's climate pattern. Therefore, they believe the trend will ultimately reverse itself.

Other scientists, however, believe global warming is here to stay. And if they are correct, the earth's climate patterns could be altered drastically. Dr. James Hansen is a scientist at the Goddard Institute for Space Studies. He says the rising temperatures are caused by the buildup of carbon dioxide and other gases in the atmosphere. These gases are called greenhouse gases because they operate in much the same way the glass panes of a greenhouse do.

The airborne gases allow sunlight to pierce through the atmosphere and reach the earth. The sunlight is then transformed into heat energy, which is trapped in by the gases. Since this energy cannot escape back into space, it heats up the earth.

As the amount of greenhouse gases in the atmosphere increases, so too does the problem of global warming. Although many gases contribute to the greenhouse effect, carbon dioxide is the main culprit. Carbon dioxide is released into the air every time a fossil fuel, such as oil, coal or wood, is burned. Therefore, every time a car is driven or a furnace is stoked, the greenhouse problem grows worse.

Deforestation is also a contributor to global warming. Each and every second, a rain forest the size of a football field is destroyed. This exacerbates the greenhouse effect in two ways. Plants, trees and vegetation consume carbon dioxide in much the same way that humans consume oxygen. Therefore, as the rain forests disappear, there is less vegetation to absorb the carbon dioxide produced on earth. And since most of the forests are burned, the resulting fires release large amounts of carbon dioxide.

Between the years of 1870 and 1970, 400 billion tons of carbon dioxide were released into the atmosphere. By 1989, another 400 billion tons had been pumped into the air. Every day, the amount of carbon dioxide in the atmosphere grows by approximately 60 million tons.

If such emissions are not curbed, the concentration of greenhouse gases in the atmosphere could double by the end of the next century. This would cause the earth to warm an additional three to eight degrees Fahrenheit. Four degrees Fahrenheit is the most common estimate, however.

A warm-up of four degrees would cause great changes in the earth's climate and weather patterns. Ice caps at both poles would begin to melt, causing sea levels to rise. Extreme weather conditions such as floods, droughts and harsh storms would become more common. Cold and heat waves would become more frequent and severe, endangering many lives.

To avoid this situation, experts say we must reduce our emission of greenhouse gases. And each person can make a difference. Planting a tree, turning off unused lights, biking instead of driving--each of these activities are small but important steps that will help the earth keep its cool.