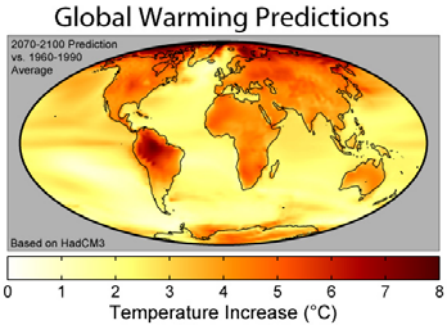
Global Warming

1. Global Warming

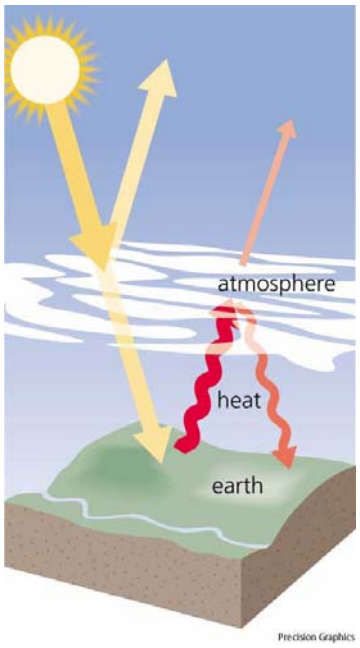
Global warming is the increase in the average temperature of the atmosphere, oceans and landmasses of Earth. The planet has warmed and cooled many times during the 4.65 billion years of its history. Mention of the big ice ages. At present it seams that Earth is warming rapidly and most scientists think that this is cause of human activities. The chief cause of warming is thought to be the burning of fossil fuels, such as oil and natural gas, which releases into the atmosphere carbon dioxide and other substances known as the greenhouse gases. When these gases become more in the atmosphere, it became a better insulator, retaining more of the heat provided to the planet by the Sun.

The average temperature of Earth is just below 15°C. Over the last century the average has risen by about 0.6°C. Scientists predict a warming of 1.4 to 5.8 even up to 8.0 Celsius degree until the year 2100. This rise in temperature causes the melt of polar ice caps and glaciers as well as warm oceans which causes a change to the weather. The melt of the ice will expand the volume of the oceans and raise the sea level up to 8 to 100 cm. The result will be flooding of costal regions and even entire islands.



2. The Greenhouse Effect

The energy that lights and warms Earth comes from the Sun. Most of the energy is visible light and infrared radiation. When the energy reaches the earth it heats the surface and a large part will be reflected back out to space. Certain gases in the atmosphere, including water vapour, carbon dioxide and methane, will keep these infrared waves in atmosphere. The result is that the temperature is rising. As more of these greenhouse gases are in the atmosphere as more of the heat energy remains trapped below. All life on Earth relies on this effect, because without it the planet would be about 33°C degree colder and ice would cover the whole surface.



3. Causes of Global Warming

The cause of global warming is seen in the emissions of green house gasses produced by the humans through burning fossil fuels.

About 40% of the carbon dioxide emissions come from the burning of fossil fuels in power plants for the purpose of electricity generation. 20% of the emissions come from burning gasoline in the combustion engines of cars and light trucks. Another 13% are emitted by trucks used for commercial purposes. The rest accords to methane and nitrous oxides emitted through natural and industrial processes.

Another factor is the deforestation of rainforests. The rain forest of the world absorbs about 2 billion tons of carbon annually. The loose of forest minimize the amount of absorbed carbon which will last in atmosphere.

4. Effects of global Warming

Scientists use computer models of Earth to simulate various scenarios and study the effect of global warming. Based on these models, scientists have made several predictions about how global warming will affect weather, sea levels, coastlines, agriculture, wildlife and human health.

- **Weather**
  Scientists predict that global warming will heat up the Northern Hemisphere more than other areas of the planet. The pole caps and mountain glaciers will shrink. Regions with light winter snows may receive no snow at all. The world will be more humid as a result of more water evaporating from the oceans. Greater humidity will increase rainfall, on average, about 1 percent for each Fahrenheit degree of warming. But there are also regions which will get dryer. Storms are expected to be more powerful and hurricanes may occur more often.
- **Sea Levels**
  The global warming will result the melt of much glacier ice and the pole caps. Sea level worldwide rose 10 to 25 cm during the 20th century and will rise 9 to 88 cm in the 21st century. Sea level changes will complicate the life in many coastal regions. A 100 cm rise could submerge 6% of the Netherland, 17.55% of Bangladesh and most of many islands.
- **Agriculture**
  A warmed globe will produce as much food as before, but not necessarily at the same places. Through the moving of dry regions and rain regions there are changes of the typical breed regions of many plants.
- **Animals and Plants**
  Animals and Plants will tend to migrate toward the poles and up to higher areas because of the modest condition.
- **Human Health**
  Diseases now found in the tropics, transmitted by mosquitoes, will widen their range. Scientists predict that more people will get sick or die from heat stress, due less to hotter days than to warmer nights.

5. Efforts to control global warming

The total consumption of fossil fuels is increasing by about 1 percent per year. No steps currently being taken to prevent global warming in the near future. But if nowadays nothing is done it is impossible to be aware of the late consequences.

There are two major approaches to slowing the build-up of greenhouse gases. The first is to keep the carbon dioxide out of the atmosphere by storing the gas somewhere else, a strategy called carbon sequestration. The simplest way to sequester carbon is to preserve trees and to plant more. Trees soak up a great amount of carbon dioxide. The second is to reduce the production of greenhouse gases. This could only be done by international agreements or national programs and laws. In 1997 in Japan, 60 nations drafted an agreement, the Kyoto protocol. This protocol says that 38 industrial nations have to cut their emission to levels 5 percent below those of 1990 until 2012. Nowadays it is common to deal with so called pollution credits, when the aim can’t be followed, to prevent penalties.

6. References

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