

## GLOBAL WARMING



**Global Warming is defined as the increase of the average temperature on Earth. As the Earth is getting hotter, disasters like hurricanes, droughts and floods are getting more frequent.**

Over the last 100 years, the average temperature of the air near the Earth's surface has risen a little less than 1° Celsius ( $0.74 \pm 0.18^{\circ}\text{C}$ , or  $1.3 \pm 0.32^{\circ}$  Fahrenheit).

It is responsible for the conspicuous increase in storms, floods and raging forest fires we have seen in the last ten years, though, say scientists.

### **Earth should be in cool-down-period**

But it is not only about how much the Earth is warming, it is also about how fast it is warming. There have always been natural climate changes – Ice Ages and the warm intermediate times between them – but those evolved over periods of 50,000 to 100,000 years.

A temperature rise as fast as the one we have seen over the last 30 years has never happened before, as far as scientists can ascertain. Moreover, normally the Earth should now be in a cool-down-period, according to natural effects like solar cycles and volcano activity, not in a heating-up phase.

## **The Most Important Things You Can Do about Rapid Climate Change:**

### **1. Understand the Problem**

### **2. Do Something Today to Reduce Greenhouse Gas Emissions**

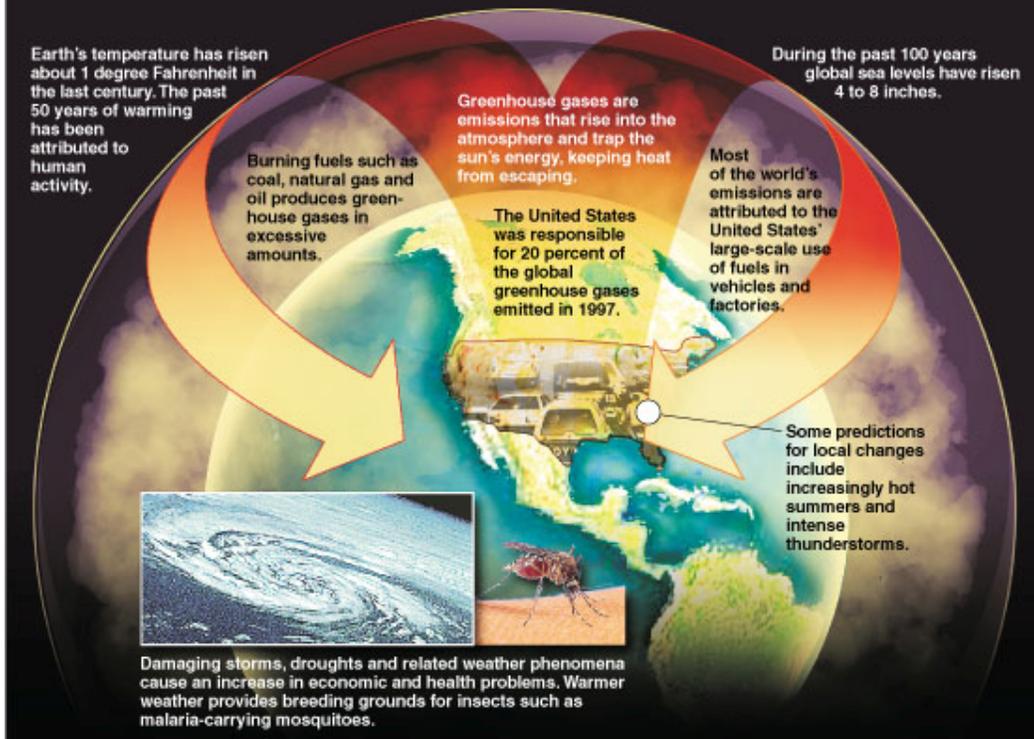
The hard fact is that despite what many nations, companies, cities and people are starting to do to reduce their global warming emissions, the world is putting more CO<sub>2</sub> into the air than ever before. The current amount is 385 parts per million (ppm) -- higher than ever in the past 800,000 years.

At the same time, renowned American climatologist Dr. James Hansen of NASA says we already have too much CO<sub>2</sub> and other greenhouse gases in the air: "If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted CO<sub>2</sub> will need to be reduced from its current 385 ppm to at most 350 ppm."

### **What Is the Greenhouse Effect?**

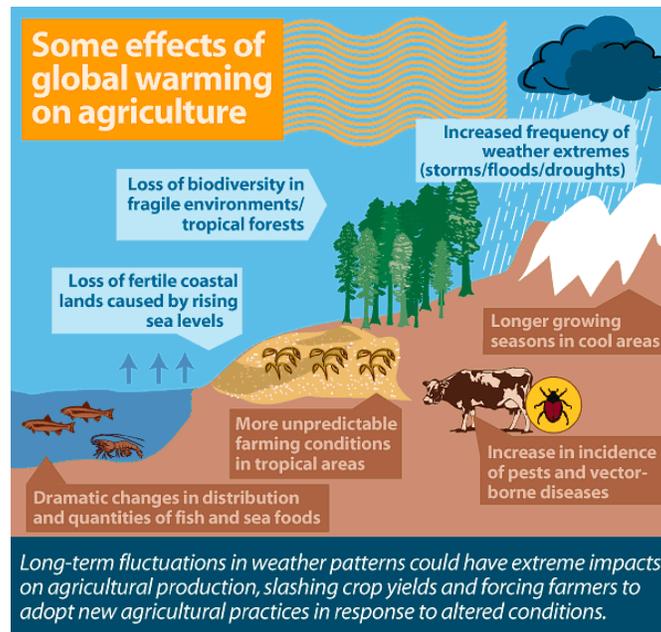
**Global warming** is perhaps the most important environmental problem in the world today. Levels of greenhouse gases are increasing in the atmosphere due to human activities, and are changing the composition of the atmosphere and global warming. Climate scientists agree that human activities such as the burning of fossil fuels contribute to the problem.

# Global warming: Causes and effects



Scientists have predicted the phenomenon of global warming for decades. Unfortunately, some of the adverse effects of global warming, they have also predicted begin to occur throughout the world, including:

## GLOBAL WARMING AND AGRICULTURE



### Impact of Global Warming



### Increase in Sea level



**Melting of glaciers due global warming**



**Before**

**After**

**Pest infestation due to global warming**

**Direct manifestations of a widespread and long-term trend toward warmer global temperatures**

-  Heat waves and periods of unusually warm weather
-  Ocean warming, sea-level rise and coastal flooding
-  Glaciers melting
-  Arctic and Antarctic warming

**Events that foreshadow the types of impacts likely to become more frequent and widespread with continued warming.**



Spreading disease



Earlier spring arrival



Plant and animal range shifts and population changes



Coral reef bleaching



Downpours, heavy snowfalls, and flooding



Droughts and fires

**1. Impact of climate change on agriculture**

Shortage in grain production

Poverty impacts

Temperature potential effect on growing period

Potential effect of atmospheric carbon dioxide on yield

Effect on quality

Agricultural surfaces and climate changes

Erosion and fertility

Potential effects of global climate change on pests, diseases and weeds

Glacier retreat and disappearance

Ozone and UV-B

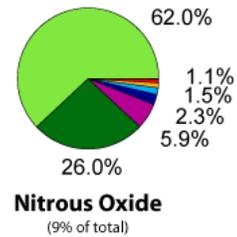
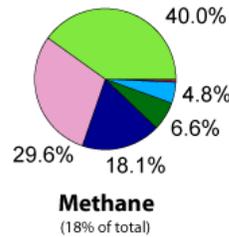
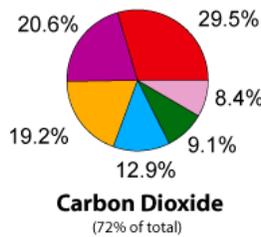
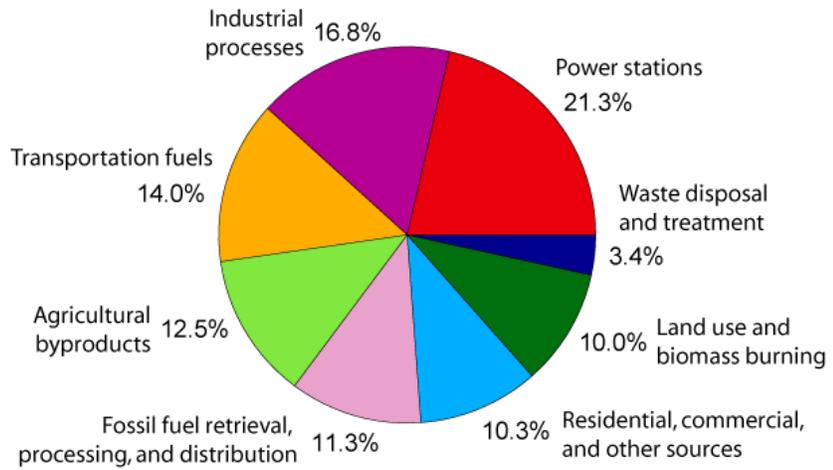
ENSO effects on agriculture

**2. Impact of agriculture on climate change**

Land use

Livestock

## Annual Greenhouse Gas Emissions by Sector



Source: <http://www.worldviewofglobalwarming.org/>

<http://www.ac-nancy-metz.fr/enseign/anglais/Henry/warming40.gif> ( agri pic)