

# Climate Change

We are seeing change all over the world. Ice of Arctic sea is melting earlier and forming later. Glaciers are disappearing. Heat waves, storms and floods are becoming more extreme. Insects are emerging sooner and flowers are blooming earlier. In some places, birds are laying eggs before they're expected and bears have stopped hibernating. Shift of climatic patterns make them inhospitable for some species, while letting others move in and take over. In some cases, entire ecosystems are at risk of collapsing. Changes in ecosystem contribute to species extinction.

So what's going on? Our planet is getting warmer, and even a small increase in temperature can change our climate. And when our climate changes, we're all affected.

## The Earth's Climate in the past

The Earth was formed about 4.5 billion years ago. It's difficult to say exactly what the daily weather in any particular place was on any particular day thousands or millions of years ago. But we know a lot about what the Earth's climate was like way back then because of clues that remain in rocks, ice, trees, corals, and fossils.

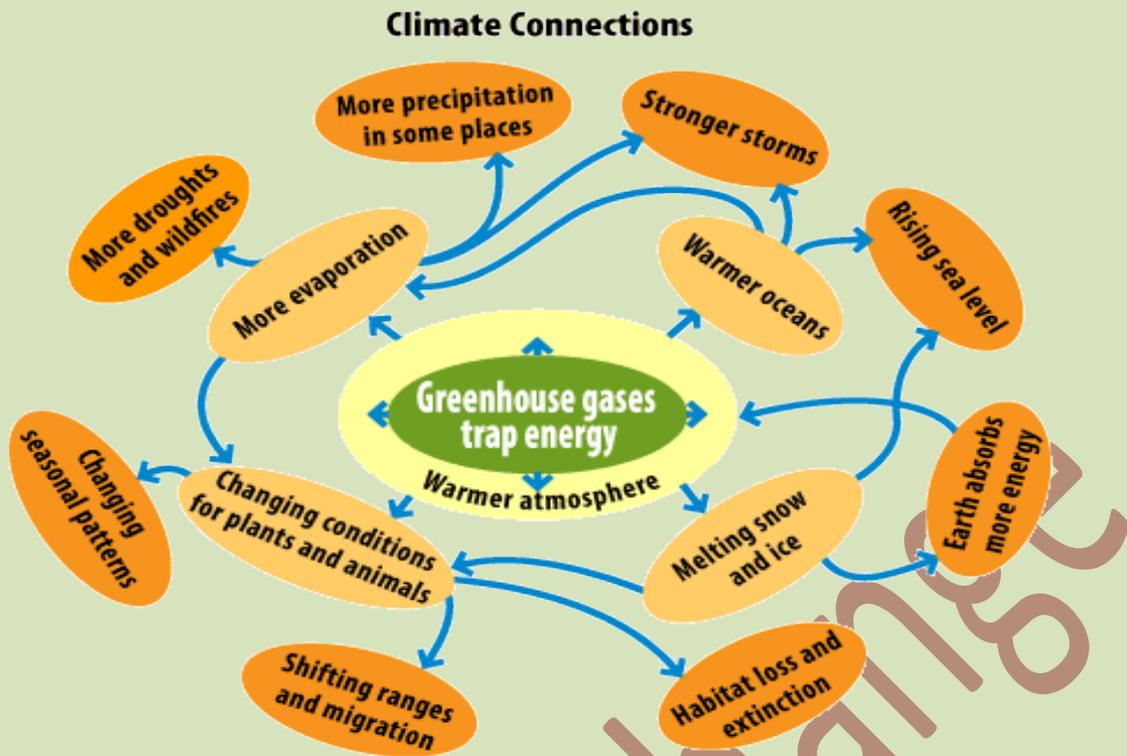
These indications tell us that the Earth's climate has changed many times before. There have been times when most of the planet was covered in ice, and there have also been much warmer periods. Over at least the last 650,000 years, temperatures and carbon dioxide levels in the atmosphere have increased and decreased in a cyclical pattern.

We didn't cause the climate change that occurred thousands or millions of years ago, so it must have happened for other natural reasons.

## Today's Climate change

Our world is always changing. If you look out your window long enough you might see the weather change. Look even longer, and you'll see the seasons change. The Earth's climate is changing, too, but in ways that you can't easily see.

The Earth is getting warmer because we are adding heat-trapping gases to the atmosphere, mostly by burning fossil fuels. These gases are called **greenhouse gases**. Warmer temperatures cause other changes like melting glaciers and stronger storms. These changes are happening because the Earth's air, water, and land are all linked to the climate. The Earth's climate has changed before, but this time is different. We are causing these changes, which are bigger and happening faster than any climate.



## Causes of Climate change

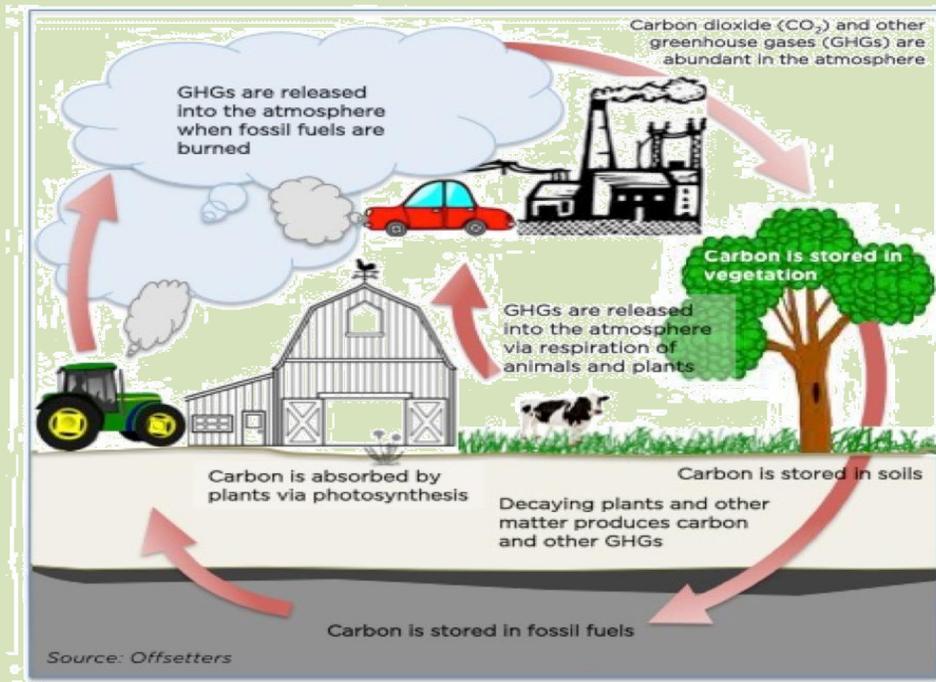
The earth is full of industries. Every year millions of different types of vehicles, aero-planes and engines are produced. A lot of artificial things have been produced and have ended up as waste. We produce much more waste than ever before. They all produce a lot of smoke, fumes and water vapor and change the climate.

Our reliance on artificial things, including all the things that make us comfortable at home, has contributed immensely to the emission of more greenhouse gases than before.

We also produce carbon dioxide and other greenhouse gases in a way, by the things we use at home. This is not good for us, as we are all contributing to global warming and climate change.

The green house gases such as carbon dioxide and methane which are released into the atmosphere are considered to be major contributor to the problem of **Climate Change** and **Global Warming**.

The United Nations has tried to limit these harmful gases with the Kyoto protocol which is set of guidelines that asks countries to meet a target of reduce green house gases to a level that will not further change.



## Greenhouse gases

These gases help keep the world from being too hot or too cold. But the amounts of some greenhouse gases in the atmosphere are increasing, making our planet warmer. Greenhouse gases include water vapor (mostly natural source), carbon dioxide (mostly human source), methane (mostly human source) and nitrous oxide (mostly human source).

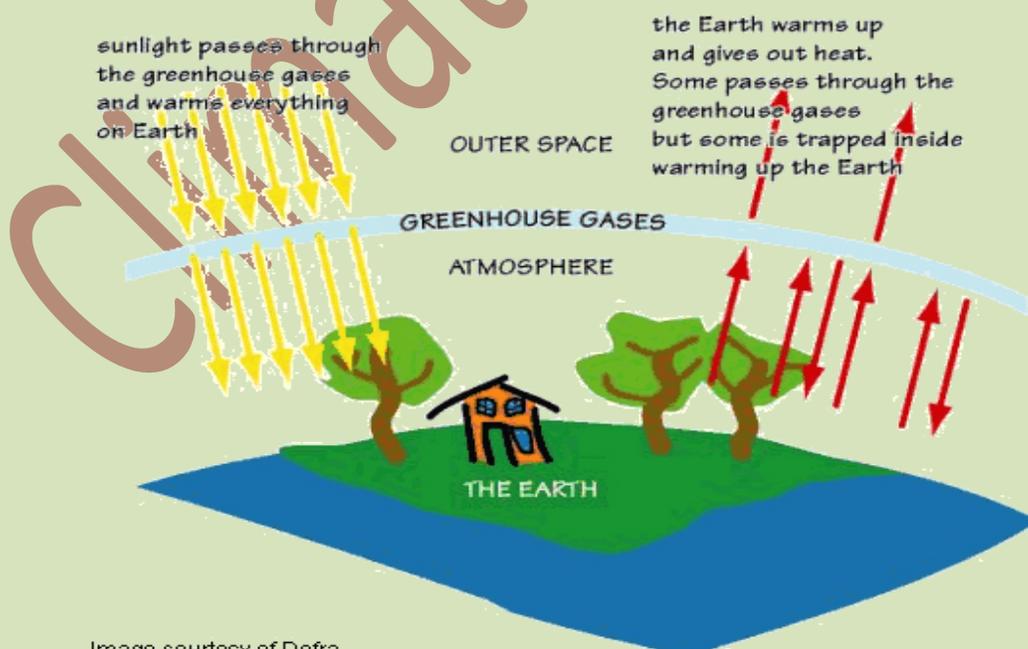
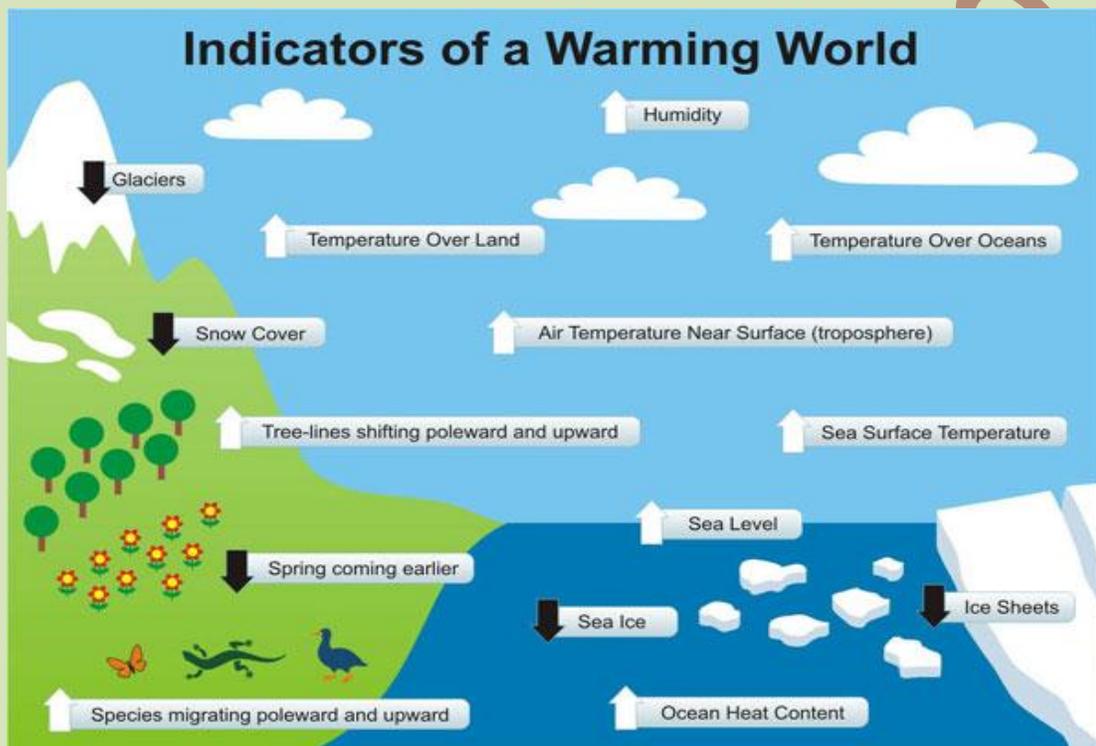


Image courtesy of Defra

## Global warming

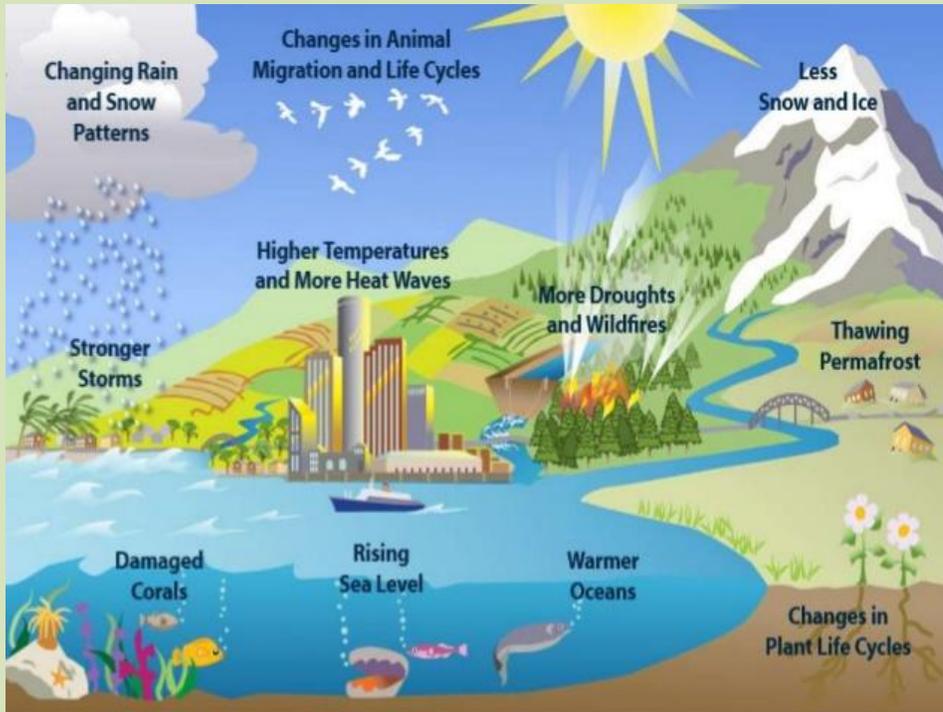
Sunlight enters the atmosphere of earth and passes through the blanket of greenhouse gases. When light reaches the earth's surface, the land and water absorbs its energy. Once absorbed, the energy is sent back into the atmosphere in the form of infra-red rays. But some of the energy passes back into space, but maximum remains trapped in the atmosphere by the greenhouse gases, causing our globe (earth) to warm up. This is called Global Warming.



## Effects of Climate change

Changing climate may also cause the weather to become more extreme, be it famine or thunder storms and heavy rain. Extreme changes in temperature make breathing difficulties, headaches, body rashes and other illnesses.

It also alters the natural habitats and life of many plants and animals like the survival of polar bears and penguins in icy regions are in danger, as they cannot survive anywhere else. Other plants and animals in hot regions will die if temperatures suddenly become too cold for them.



## Things you can do to help - Climate change

Automobile industries, refineries, commercial farmers, and others are the main bodies with the highest carbon emissions. We depend on them to supply products and food that we enjoy at home. This means if we reduce our reliance for these big industries, they won't have to produce more.

So a good way to solve the problem starts reducing our **carbon footprint**. Our carbon footprint is the sum of all emissions of CO<sub>2</sub> (carbon dioxide), which was produced by activities in a given time frame.

- Go by **BUS**. **WALK**, don't drive. **RIDE**, don't drive. Vehicles produce greenhouse gases.
- **PROTECT** and **PLANT TREES**.
- Be **ENERGY EFFICIENT**.
- Trim your **WASTE**.
- **RECYCLE**, **REDUCE** and **RE-USE** items.

*In 2006, child delegates to the 4th World Water Forum in Mexico City challenged leaders and policymakers, saying, "We, the children of the world, are ready to work with you. Are you ready to work with us?" The answer must be a resounding "yes" because what is good for children – reducing pollution, safeguarding education and health, preserving environmental diversity, protecting water supplies, increasing access to proper sanitation – is also good for the planet.*

**So RAISE YOUR VOICE, Be ENVIRONMENT FRIENDLY and SAVE the PLANET.**

Source: <http://www.kidzworld.com/article/17859-the-kids-guide-to-global-warming>  
<http://www3.epa.gov/climatechange/kids/basics/concepts.html>  
<http://www.eschooltoday.com/climate-change/things-to-do.html>