

CLIMATE

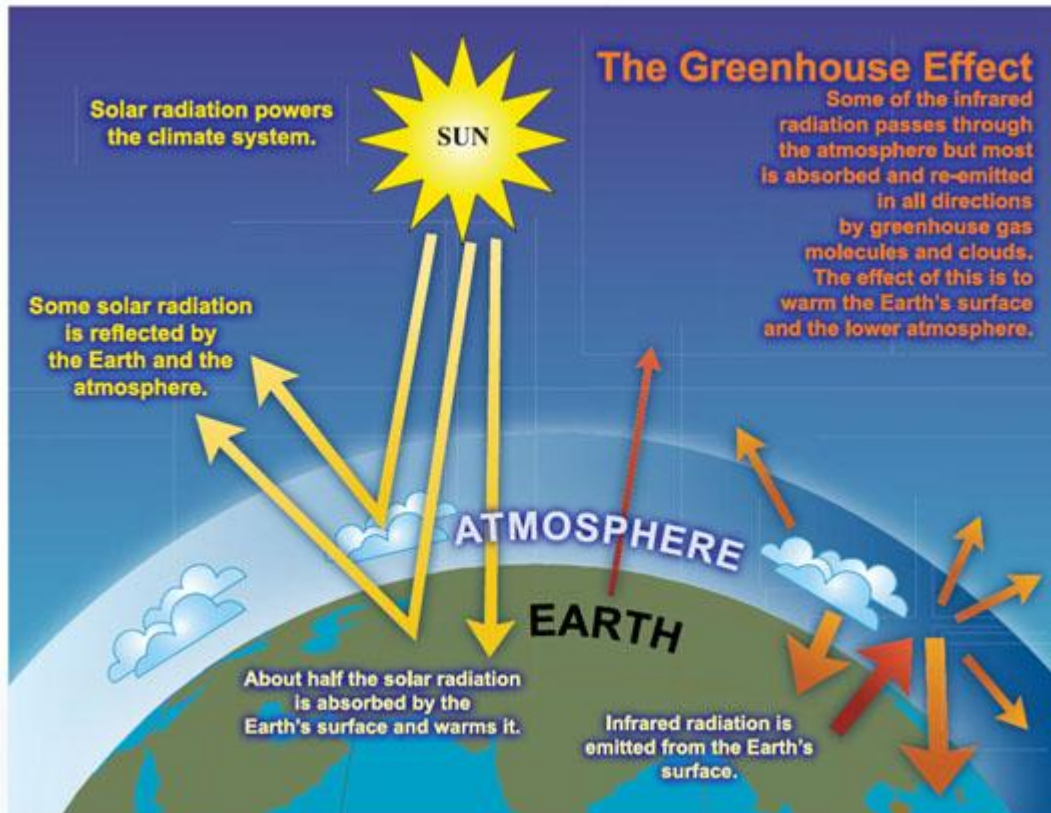
Effects of climate change : 1. Small climate changes disturbs agriculture which leads To migration of animals and human.

2.Climate change may upset hydrological cycle which results in floods and droughts in different parts of the world.

3. Global pattern of winds and oceans currents also gets disturbed by climate change.

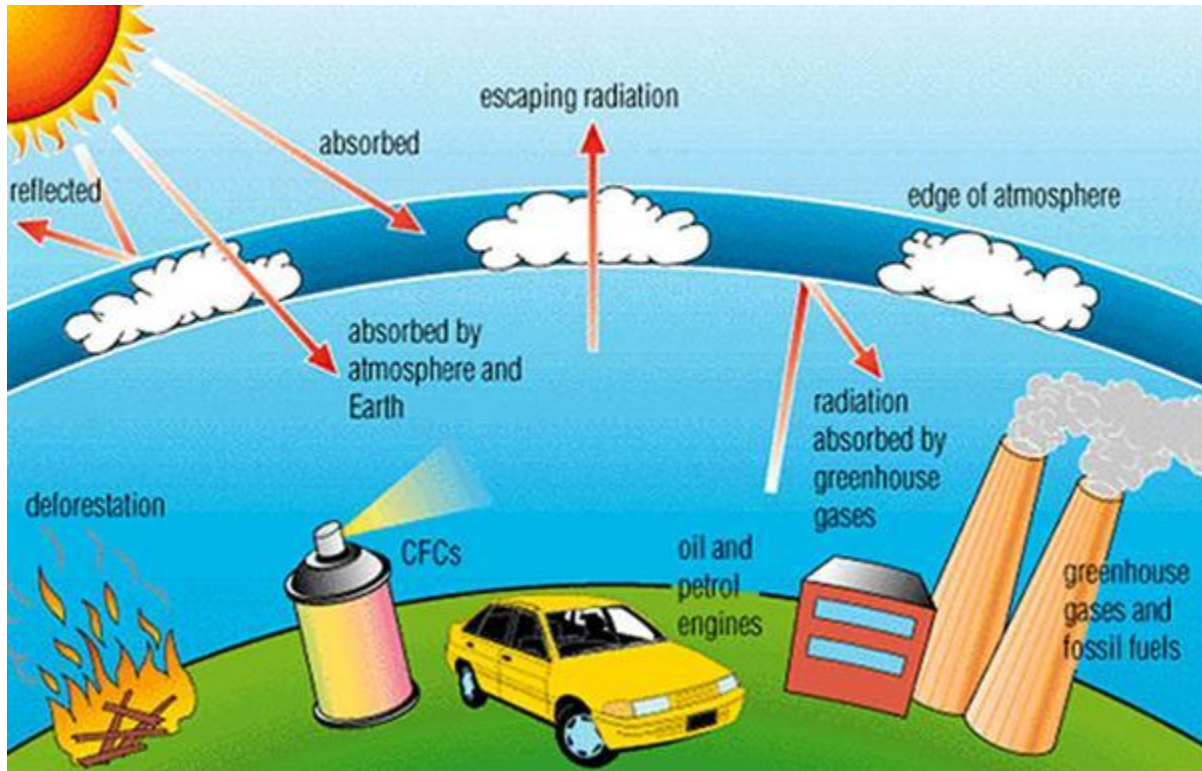
Green house effect : Green house gases are CO_2 , Methane, Nitrous oxide NO_2 , CFC

Among these CO_2 is the most important green house gas. O_3 and SO_2 act as serious pollutants causing global warming. Progressive warming up of a gas surface due to blanketing effect of man made CO_2 atmosphere.



GLOBAL WARMING:

Green house gases in the atmosphere are transparent to light but absorb IR radiation. These gases allow sunlight to penetrate the atmosphere and are absorbed by the earth surface. This sunlight is radiated back as IR which is absorbed by gases. As a result the earth surface and lower atmosphere becomes warm. This is called global warming.



EFFECTS OF GLOBAL WARMING:

1. sea level increases as result of melting and thermal expansion of ocean.
2. High CO₂ level in the atmosphere have a long term negative effect on crop production and forest growth.
3. Global rainfall pattern will change .Drought and floods will become more common. Raising temperature will increase domestic water demand.
4. Many plants and animal species will have a problem of adapting. Many will be at the risk of extinction, more towering verities will thrive.
5. As the earth becomes warmer the floods and drought becomes more frequent. There would be increase in water-borne diseases.

MEASURES TO CHECK GLOBAL WARMING:

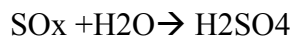
1. CO₂ emission can be cut by reducing the use of fossil fuel.
2. Plant more trees.
3. Shifting from coal to natural gas.
4. Stabilize population growth.
5. Remove efficiently CO₂ from smoke stacks.
6. Removal atmospheric CO₂ by utilizing photo synthetic algae.

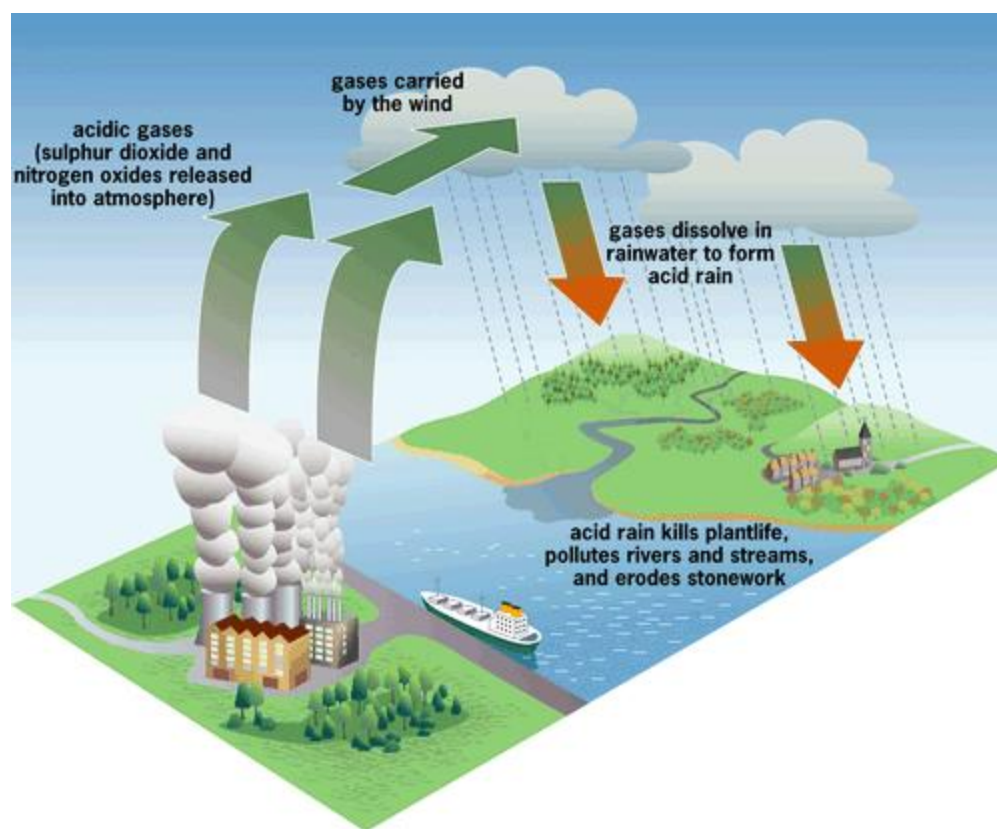
ACID RAIN:

Normal rain water is always slightly acidic (pH 5-5.6) because of CO₂ present in the atmosphere gets dissolved in it. Because presence of SO₂ and NO₂ gases as pollutants in the atmosphere. The pH of the rain is further lowered. This type of precipitation of water is called acid rain.

Formation:

Acid rain means the presence of excessive acids in the rain water. The thermal power plants industries and vehicles release NO₂ and SO₂ into the atmosphere due to the burning of coal and oil. These gases react with water vapour in the atmosphere and form acids like HNO₃, H₂SO₄. These acids descend on to the earth as acid rain through rain water.





EFFECTS:

Effect on human being:

Human nervous system respiratory system and digestive system are affected by acid rain. It causes premature death from heart and lung disorders like asthma, bronchitis.

On building:

At present Taj Mahal in Agra is suffering due to SO_2 and H_2SO_4 fumes from Madras refinery. Acid rain corrodes houses, monuments, statues, bridges and fences.

Acid rain causes corrosion of metals.

Terrestrial and lake Ecosystem.

Reduce the rate of photosynthesis and growth in terrestrial vegetation.

Acid rain retards the growth of crops like beans, potatoes, carrots, spinach. Acid rain reduces fish population, black flies, mosquitoes, deer flies occurs largely which causes a number of complications in ponds, rivers and lakes.

Activity of bacteria and other microscopic animals is reduced in acidic water. The dead materials are not rapidly decomposed. Hence the nutrients like N, P are locked up in dead matter.

Control of acid rain:

Emission of NO_2 and SO_2 from industries from power plants should be reduced by using pollution control equipments.

Liming of lakes and soils should be done to correct the adverse effect of acid rain.

In thermal plants low sulphur content coal should be used.

Source : <http://nprcet.org/e%20content/eee/EVS.pdf>