EFFECTS OF CLIMATE CHANGE

(1) GLOBAL WARMING:

Rise in global mean temp = 0.74°C (average)

Av. temp. of atmosphere is round 14.29°C. Now is reaching upto 15°C.

- Increase b/w 1900-2000 is 0.6°C
  1906-2006 is 0.74°C

Rate of warming was 0.07°C per decade till 195 but it has doubled i.e. 0.13°C from 1958-2005

- This ↑ in temp. differs latitude wise.

in North and South Polar region ↑ is 3-6°C

* In 2005, Antarctica's temp ↑ed 10°C.

In last century 1998 - warmest year
present decade 2010 - " "

in Indian cond., temp. of hill station is ↑ by 2-4°C.

Tropical region ↑ = 0.3-1.5°C.

Area close to equator = 0.3-0.7°C (Vns = 0.7°C Rajasthan ↑se is less) but it is warm

* The optimum data is upper limit.
Even ↑ in 0.1°C will lead to major changes.

(2) HIGH HUMIDITY

At ↑ temp., there is ↑ capacity of holding moisture and and more humity is found.

Variable cloud :- It is result of Percipitation variation found

Dry area got = more rainfall.
Wet " " = less "

(Vns = 1200 mm annual rainfall last year 600-700 mm)

+ Monsoon ~~is~~ ~~or~~ movement is directed by air movement direction and air pressure.

(3) VARIABLE CLOUD

(i) High cloud formation due to high evaporation
(ii) Some places have more and some less cloud formation.
(iii) Air movement pressure variation
(iv) ~~Precipi~~ Precipitation also changes.

(4) VARIABILITY IN RAINFALL PATTERN

- No. of rainy days decreased / length reduced.
- Rainy season delayed.
- Erratic rainfall - causes flood.
- One day rainfall covers large area.
  eg. 26th July 2006 → 1000 mm (Mumbai)
- ** Due to downstream sides are affected.
  We are facing drought.

rid area : low moisture content, become more dried.

CYCLONE - Start from sea.

Cyclone intensity has increased and frequency also.
Cyclone develops where low pressure area ~~to~~ to high pressure area extends.
Very high wind speed followed by precipitation.
there are 3 types of cyclone.

1) Depression cyclone - 30 - 50 km/h
   Lowest form of cyclone.
2) Normal cyclone - 50 - 65 km/h
3) Severe cyclone - 65 - 85 km/h

eg. Cyclone Catrina in Florida (SE USA)
East coast.

- soil become saline.
- Loss of property.

→ Cyclogenesis - Formation of cyclone in given area of sea. Climate change help in cyclo-genesis.

⊕ Severe cyclone is common in post monsoon.
⊕ Depression cyclone are " " pre-monsoon.

3 ~~factors~~ effects of cyclone

1. Strong wind
2. Storm surge
3. Heavy and prolonged rainfall.

1. Strong wind → uprooting of vegetation is very common in strong wind.

2. Storm surge - It is abnormal rise of sea level in coastal region.
It may rise upto >3 m in extreme cases. eg High waves.

3. Sea water enters into terrestrial area causing salinity of soil and water bodies. (pond / lake etc)

- All three above factors lead to catastrophy, build collapse, infrastructure loss.

In India some area are - ~~Calcutta~~, Cuttack, Vellore, Porbander (Gujrat)

- Godawari (Andra Pradesh) in eastern part (coast)

* East coast is more vulnerable than west.

(6) SEA LEVEL RISE

Factors for rising.

(A) Thermal expansion - Contribute 60% increase in sea level rise. (Water take large area at high temp)

Rainfall - Decrease in no. of rainy day by 15 days in western and central India and increase by 10-15 days in foothill areas of Himalaya and North-eastern parts.