

## Pressure Belt

Pressure belts are categorized as thermally induced pressure belts and dynamically induced pressure belts. These are the outcome of latitudinal heat imbalance and rotation of earth.

There are 4 pressure belts formed on the surface of earth which are as under.

1) Equatorial Low Pressure Belts- It is formed at around 5° North and South. It is thermally induced pressure belts formed because of high temperature prevailing at equator. Due to high temperature air masses become lighter and thus evaluate leading to development of low pressure near equator.

Rising air masses create high pressure in upper troposphere as the density increases. These pressure belts move to north and south in correspondence to movement of sun rays

2) Sub tropical high pressure belts- It is formed around 30-35° N & S. It is dynamically induced pressure belts.

Air masses which lie at equator move towards Polar Regions due to energy gradient.

(Equator energy surplus area, Poles energy-deficient area)

As movement takes place at expense of energy after covering distance of around 30° latitude, air masses are dense and subside towards the surface and creating a high pressure around 30° latitude.

It shifts towards north and south, with respect to the movement of sun rays.

3) Sub-polar low pressure- At 60° N and S, air masses are deflected from the surface. It is because of 2 reasons

a) The effect of deflection increases away from centre i.e. equator resulting in the creation of low pressure zone. This effect is not seen at poles because air masses are very dense. Thus high pressure prevails there as deflection at poles or rotation of earth are incapable of lifting of air masses.

b) Oceanic currents move from equator to poles resulting in the increase of temperature in sub-polar region. It is thus dynamically induced pressure belts, without rotation of earth, sub-polar low pressure belts cannot form.

4) Polar High Pressure Belts

It is formed around 90° N and S because temperature is very low as it is energy deficit zone or air masses are dense thus subside to create high pressure. Thus thermally induced pressure belts, opposite condition of pressure prevails in upper troposphere. The development of pressure

gradient between different latitude gives rise to movement of air from high pressure to low pressure.