

## 12. ATMOSPHERIC PRESSURE

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- Air pressure or atmospheric pressure is defined as total weight of a mass of column of air above per unit area at sea level.
  - The atmosphere is held on the earth surface due to the gravitational force of the earth.
  - The atmospheric pressure is measured with the help of an instrument called Barometer.
  - Atmospheric Pressures unit is milibars.
  - Rapid decrease in the Barometer reading indicates towards a stormy weather.
  - When Barometer reading first decreases and then increases slowly, it shows that the rains are approaching.
  - Continuous increase in the barometer reading indicates towards anti-cyclonic condition and a clear weather.
- Isobar**
- Distribution of atmospheric pressure over the globe is shown with the help of imaginary lines are called isobars.
  - Isobars are the imaginary lines.
  - Isobar joins the places of equal pressure at the sea level.
- Distribution of atmospheric pressure-**
- 1. Equatorial low pressure belt (5°N–5°S)–**
    - This is a belt of very low atmospheric pressure.
    - The equatorial low pressure belt is thermally induced.
    - In this zone, there is almost no horizontal movement of air.
    - The air in this Belt rises up.
    - This belt is called a "**Belt of Calm**".
    - Its other name is "**Doldrum**".
  - 2. Sub-Tropical High Pressure Belt (30–40° N&S)–**
    - These winds get deflected towards east due to rotation of the earth.
    - This phenomenon was first discovered by the french scientist Coriolis, hence this force exerted by the rotation of the earth is called coriolis force.
    - The quantity of the force keeps increasing with increasing distances from the equatorial belt.
    - This zone of high pressure is called '**Horse Latitude**'(40° N).
  - 3. Sub-Polar Low Pressure Belt (60–65° N&S)–**
    - Low pressure is found in this belt.
    - In this belt air rises up.
    - This zone is characterized by cyclonic storms.
  - 4. Polar High Pressure Belt (90° N-S)–**
    - Low Temperature found in this belt
    - High pressure found in this belt