
Atmospheric Pressure and Wind



Definition -

The Atmospheric Pressure is the weight or force that the air exerts (gives out) on the surface of the Earth. Atmospheric pressure depends on the following three things

- **Altitude** - the height of an object or point in relation to the sea or ground level - the higher the altitude, the lower the pressure.
- **Air Temperature** - **warm air** weighs less than cold air and it rises - this causes areas of **low pressure** - these are called **Depressions**. **Cold air** weighs more than warm air and descends - this causes areas of **high pressure** called **Anticyclones**.
- **Jet Streams** - These are air currents that circulate around the Earth at a height of 15000 metres. They cause areas of high pressure in some places, like deserts.

The Wind

What is the wind? The wind is a mass of moving air - it happens between two areas of atmospheric pressures - air always moves from areas of high pressure to areas of low pressure.



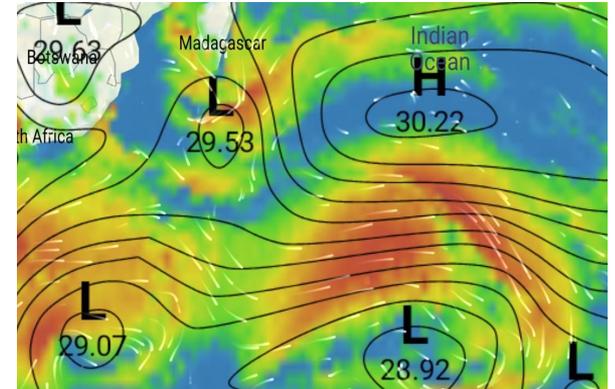
The Different Types of Wind

- **Prevailing Winds** always blow in the same direction.
- **Seasonal Winds** - such as **Monsoon Winds**. In summer, they blow from the Indian Ocean towards the centre of Asia, bringing rain with it. In the winter, they blow from the continent towards the sea, and are dry and cold.
- **Local Winds** are **changeable** - such as the Cierzo Wind in Aragon and the Levante in the Community of Valencia and Andalusia.

Anticyclones and Depressions

Isobars are imaginary lines that appear on weather maps. They connect places with the same atmospheric pressure. **Anticyclones** are shown by **concentric isobars** - where there are **high numbers at their centre**.

Depressions are shown by **Isobars with low numbers at their centre**. Winds are stronger in places where isobars are close together.



To summarise

- **Atmospheric Pressure** depends on the altitude, air temperature and air currents.
- **Wind** is caused by a mass of air moving from an area of high pressure to an area of low pressure
- **Isobars** are imaginary lines that point out the atmospheric pressures of an area.

<https://www.youtube.com/watch?v=h8L6R0L7Y5A&t=43s>