Definitions.

Relative Humidity:-

The amount of water vapour present in air at a given temperature compared to the amount that the same air could hold when fully saturated at the same temperature, expressed as a percentage.

Dewpoint:-

The temperature at which a given body of air becomes 100% saturated.

Gust:-

A sudden increase in wind speed, accompanied by a veer of about 30^{o}, which lasts for a few seconds.

Squall:-

A change of wind speed and/or direction, very often accompanied by precipitation lasting for several minutes. (The wind direction in a squall may bear no relationship to the mean wind direction at any given time). Squalls are generally associated with heavy thunder shower activity.

Wind Shear:-

A large and sudden change of wind speed and/or direction within small hnorizonal or vertical dimensions, which will result in sudden changes of aircraft performance, (eg rate of descent).

Visibility:-

The ability to see objects by day or lights by night, at given distances from the observer, expressed in Metres (for aviation purposes).

Fog:-

Any condition that reduces the visibility to less than 1000 M.

Haze:-

A condition where dry particles in suspension in the air reduce visibility below 10,000 M but not below 1000 M. (See note below).

Mist:-

A condition where minute water droplets in suspension in the air reduce the visibility below 10,000 M but not below 1000 M.

NOTE.

Haze and mist can be very similar in appearance. The identifying factor is that if the temperature and dewpoint temperatures are very close together then the air is considered wet, and therefore the condition is mist. Haze on the other hand is a dry air condition, (temp and dewpoint far apart).

Haze is generally associated with anticyclones, while mist is more common with depressions, warm sector, and col conditions.

Adiabatic:-

The property of a gas whereby it changes its temperature in reverse ratio to pressure changes. (If a gas is heated it will increase its pressure and vice versa).

Airmass:-

A large body of air which differs from the surroundings by virtue of its temperature, pressure, dewpoint and relative humidity.

Source Region:-

The geographical area from where an airmass originated.

Airmass Classification:-

Maritime, if the airmass originated at sea.
Continental, if the airmass originated over land.

There are three further sub-classifications depending on the air temperature, namely **Tropical**, **Polar** and **Artic**. Note that artic air is the coldest.

An airmass description will state the main and sub classification, such as Maritime-Tropical etc.

An airmass will always maintain its original source region characteristics. As they move further from the souce region they will become modified considerably, but will not completely lose their identity. For instance Maritime-Tropical air will be moist and warm wherever it is, and conversely Continental-Artic air will always be cold and dry etc.

Buys Ballots Law:-

When an observer stands with back to the wind in the Northern Hemisphere, the low pressure centre is on the left. (This is the opposite in the Southern Hemisphere).

Wind Veer:-

A change of wind direction in a clockwise direction.

Wind Back:-

A change of wind direction in an anti-clockwise direction.

NOTE.

With veer and back, the direction change is true in both Hemispheres. No attempt should be made to reverse the condition for the Southern Hemisphere, **unlike** the other aspects of air movement.