

Where does the wind come from?

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What is wind?

Movement of air between pressure systems as they try to balance out is called wind. Air flows from high pressure systems to low ones to try to reach equilibrium. In the constantly developing and changing system of the atmosphere this never actually happens.

In the southern hemisphere, air spirals up and clockwise into a low pressure system. It spirals down and anticlockwise away from a high. The wind does not move around between the isobar lines shown on a synoptic map, nor directly across them, but rather at a slight angle to them. In a high it will typically spiral outwards at about 10–15° to the isobars, and in a low it will be spiralling in towards the centre at about 10–15°.

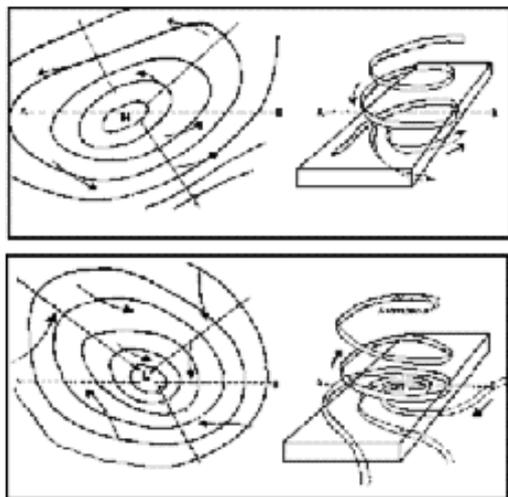


Figure 1. Movement of air in pressure systems

This is illustrated in the diagram. Local topographic features will modify these general patterns of wind direction and the angle at which the wind moves in relation to the isobars.

The difference between the pressures and the closeness of the systems determines the wind speed. This is seen as closeness of the isobars on synoptic maps. The closer the isobars, the higher the wind speed will be.

What comes with the wind?

The location of the pressure systems can tell us what may come with the wind. It is most likely that air coming off the ocean – particularly the warmer parts of the ocean – will bring moisture. Air from central Australia (which has no free water and few plants) will probably be dry. Air coming from the Antarctic will be cold. Air from the north will be warm.

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