

PART A – ANTICYCLONES AND DEPRESSIONS

Geoff's new version of the Met Office original, with changes from Bob

What is an anticyclone?

An anticyclone is a large area where the pressure at the surface is higher than in the surrounding area. It is often called simply a "high". On a weather map, isobars around an anticyclone are normally widely spaced, so winds are usually light and (in the Northern Hemisphere) they blow in a clockwise direction around the centre of the anticyclone.

What weather does an anticyclone give?

Under an anticyclone the air is descending; this inhibits cloud formation so the weather is usually clear and fine. The clear skies allow heat to be lost from the surface of the earth by radiation to space, so temperatures fall steadily overnight. In winter this can give frosts, and fog can form which can be slow to clear in the morning.

In summer anticyclones can bring long sunny days and warm, or even hot, temperatures. The weather is normally dry although occasionally the hot ground can trigger thunderstorms and torrential rain.

Large anticyclones tend to be slow moving so they tend to bring settled weather which may persist for many days or even weeks. The result can be heatwaves in summer and cold snaps in winter. On the other hand, smaller anticyclones, which are often found between travelling depressions, just provide an interlude of fine weather.

The position of the centre of the anticyclone also affects the weather. If it is to the north and east of us we will get easterly winds, which are very cold in winter but very warm in summer (and can be polluted). But sometimes the anticyclone can be in a position which gives low cloud ("anticyclonic gloom") and light drizzle can fall.

What is a depression?

A depression is an area at the surface where the pressure is lower than in the surrounding area. It is often called simply a "low". On a weather map isobars around a depression are often roughly circular in shape, and closely spaced leading to strong winds – these blow in an anticlockwise direction. Depressions are usually accompanied by cold or warm fronts spiralling out from the centre.

What weather does a depression bring?

Under a depression the air is rising, this makes it cool and water vapour in it condenses to form thick clouds. So typical weather in a depression will be cloudy, windy and wet. Depressions that have a particularly low pressure may provide very strong winds which can cause destruction to buildings and vegetation and disruption to transport. Also there can sometimes be heavy rain for long periods.

Depressions are often, though not always, quite fast moving and travel across the UK from the Atlantic. In the winter there is sometimes a sequence of depressions with the higher pressure between them bringing a brief respite from the wet and windy weather. Slow moving depressions travelling over the UK from the south can bring thundery conditions in the summer.