

The difference between weather and climate

The difference between weather and climate is neatly summed up in the phrase “the climate is what you expect; the weather is what you get”, frequently attributed to Mark Twain.

Climate is the average weather – for example mean annual rainfall in Glasgow, average January temperature in Falmouth, how many hurricanes usually happen in the north Atlantic each year. In any one year, it might be wetter or drier than usual in Glasgow, colder or warmer than usual in Falmouth or there may be more or less north Atlantic hurricanes, but this won't necessarily affect the average unless there is a string of years the same.

Usually, the climate is defined as the average weather of the past 30 years.

Have a look at the climate station map of the UK produced by the Met Office at <http://www.metoffice.gov.uk/public/weather/climate/gcqrqyr80>. Choose one of the stations, then look at the 'averages table' tab to show the various climate parameters for that place. Are they what you would have expected? Next, have a look at the 'averages graphs' tab. Now you should see not just the 'average' value of each parameter (the thick horizontal black line) but also a range of values between the green bars. In six out of ten years, the temperature (or whichever other parameter you look at) will fall within the green bars. In two out of ten years, the values will be lower than the bright green line, and in the remaining two out of ten years, the values will be higher than the pale green line.

This nice animation produced by Teddy TV shows the analogy of a dog and his owner:

<https://www.youtube.com/watch?v=ePL-uOg9hSU>

It nicely sums up how the weather can change from week to week or year to year, but the climate stays the same, or, as in the case shown in the video, gradually warm.

