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Ups and Downs of the Jet Stream

Hello,

Turmoil at Westminster seems to be matched only by turmoil in the atmosphere this month.

June started off with sunny skies and warm temperatures, but since the weekend we have drifted back into more unsettled conditions. Many people have been asking me why this should be, and you won't be surprised to learn the cause is that old chestnut; the jet stream!

Lets look at the 500mb chart for midday last Monday, 1st June 2009. Now, what this chart shows is the actual height of the 500mb level in decametres (the solid lines). For example '560' means that the height of the 500mb surface at that point is 5600 metres. The closer together the solid lines (or the 'height lines') the stronger the winds at that level. Also on the chart are dash coloured lines, and these are temperatures is 5C steps.

Temperatures is important because the warmer the temperatures, the higher the height of the 500mb level and vice-versa.

I've marked on the jet stream as the thick, dashed, blue line. Notice how it meanders in an 'n' shape over the country. This is the classic hallmark of high pressure over the UK. As warm air is pumped northwards over the country the 500mb height builds. This increase the amount of air above the surface of the earth at that point, hence pressure builds and on a surface chart high pressure would be shown over the UK on this day.

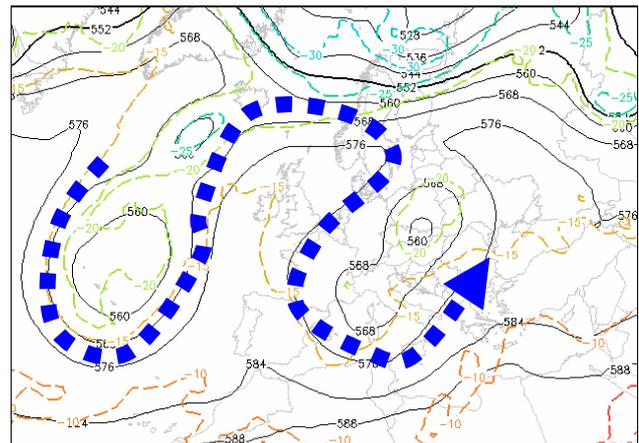
Compare this with the 500mb chart for last Sunday. See how much further south of the country the jet stream is. It is blowing through Portugal, Spain and the up through southern parts of central Europe. This has meant that the low pressure areas which are hooked-up by the jet stream and blown along by them, are to the south of the country, hence the reason for southern areas seeing most rain.

At this time of year the jet stream should be much further north, between Iceland and Scotland and that is what we will have to see before the weather improves.

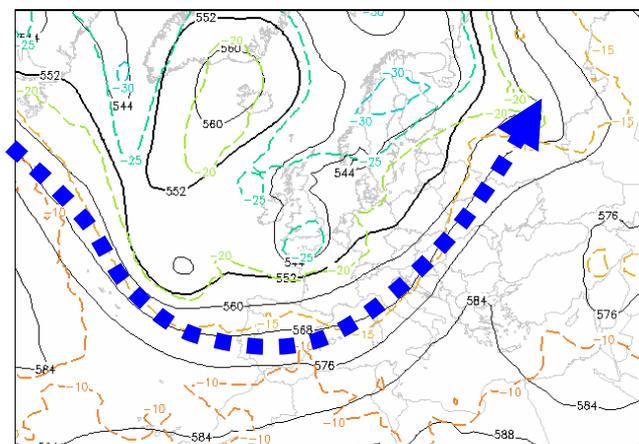
However, the forecast chart for the weekend (bottom right) is showing a weak 'n' trying to build (this is a ridge) and so on Saturday conditions may become warmer and drier over most of the country.

I hope that has been useful.

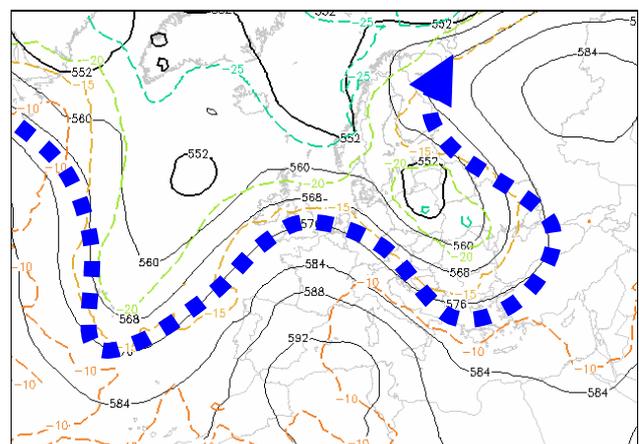
Simon



Height 500 hPa GFS (gpdm) Mon 01/06/09 12 GMT (Mon 00 + 12)
Temperature 500 hPa GFS (°C) WeatherOnline



Height 500 hPa GFS (gpdm) Sun 07/06/09 12 GMT (Sat 00 + 36)
Temperature 500 hPa GFS (°C) WeatherOnline



Height 500 hPa GFS (gpdm) Sat 13/06/09 12 GMT (Tue 06 + 102)
Temperature 500 hPa GFS (°C) WeatherOnline