OCTOBER 1997.

The month began with a strong ridge of high pressure across southern England which was to dominate the weather of this part of the UK until the $\mathbf{5}^{th}$. At the same time depressions were to have a marked influence of the weather of the northern counties and Scotland.

The 1st recorded a maximum of 22C, quite high for the time of the year, and with almost 9 hours of bright sunshine. Temperatures were to remain in the high teens until the fifth as days continued sunny under the influence of a mainly southerly air flow. In fact 10.5 hours of sunshine was registered on the 5th, by which time the ridge was showing marked signs of decay as low pressure systems moved into the south west and fronts lined up to cross the UK.

By the 6^{th} a warm front lay across the country bringing slight rain at times during the day. A further front crossed the area during the early hours of the 7^{th} bringing much more substantial rain as a deep depression moved up the Irish Sea to lie off Scotland.

A further Atlantic low approached the UK during the 8^{th} introducing a very moist and warm southerly air stream across the south of the country. This brought a period of moderate rain to the Midlands during the morning and early afternoon. Over midnight of the $8^{th}/9^{th}$ line convection, followed by a warm front introduced very unstable air over parts of Central England with torrential rain and thunderstorms. In the hour from 2330 on the 8^{th} to 0030 on the 9^{th} 19mm of rain were recorded, the 24 hour total ending at 0900 on the 9^{th} being 31.5mm.

With the passage of this system into the North Sea and a mainly westerly air stream ensuing, the 9^{th} was a day of sunny spells and occasional light showers. A further frontal system crossed the Midlands overnight on the $9^{th}/10^{th}$ bringing a period of moderate rain. The 10^{th} thus dawned with a clear sky and light west to north west wind as the parent depression tracked across the Border region towards the North Sea. Both the 11^{th} and the 12^{th} saw a continuation of low pressure near to the country. This fed frontal systems south eastwards bringing periods of rain, some heavy. The 11^{th} saw a fall of 18mm during a wet spell of over 15 hours.

By the 12th the parent depression had moved into Europe bringing somewhat more settled conditions and 5.6 hours of sunshine though it remained rather cool. With low pressure nearby, the 13th began with a period of light rain, the day improving to one of sunny spells giving a total of 5.6 hours sunshine. With the clear skies overnight on the 13th/14th the first real frost of the Autumn occurred, grass temperatures falling to -3.2C and the air to -0.8C. The period from the 14th to the 16th was dominated again by low pressure which fed a mainly NW air stream over the region producing a sheet of low stratus and strato cumulus, the associated fronts giving yet more rain on all days. Additionally, no sunshine at all was recorded for the period.

By the 17th pressure began to build, though the day remained rather dull and damp. An anticyclone was centred to the north of the country by the 18th and this gave much more settled and sunny weather, the 18th recording 9.3 hours of almost unbroken sunshine and a day maximum of 22.3C, the warmest day of the month to date. With high pressure remaining near to the United Kingdom over the next three days the weather was far more settled with generally sunny days and cooler nights after an initial setback on the 20th which saw no sun at all and a maximum of only 11.9C, some 11 degrees LOWER than that recorded just 24 hours earlier.

Both the 21^{st} and 22^{nd} were days of almost unbroken sunshine providing just under 9 hours on each day, though under the clear skies nights were cool, a ground frost of -4C being recorded on the 22^{nd} with an air frost of -1.1C. Daytime maxima were also well below the high values noted on the 18^{th} and 19^{th} reaching no higher than 12.4C on the 22^{nd} .

High pressure remained near to the British Isles, or was centred over it, for the next 4 days, declining only slowly as its centre moved. Night frosts became general from the 22^{nd} onwards, the grass falling to -5.6C on the morning of the 26^{th} when some fog patches were also evident. Days were decidedly cool, though dry and sunny, maximum temperatures reaching no higher than 9.3C on the 23^{rd} and 11.1 on the 25^{th} . In the five days from the 21^{st} to the 26^{th} no fewer than four saw daily sunshine totals in excess of 8 hours.

The dominant anticyclone continued near to the UK for the major part of the last days of the month, weakening only slightly as an occluded front pushed southwards on the 30th. This introduced cloudier air and slight rain amounting to no more than a trace. From the 27th to the 29th inclusive almost continuous sunshine occurred daily, with 9.2 hours on the 28th, a near maximum for this time of the year. Nights, being generally clear, were cold with widespread ground and air frosts recorded. In fact 9 of the 10 days from the 22nd to 31st inclusive saw a ground frost. By the 31st a new anticyclone had built over Ireland, ridging strongly across the UK. This gave a cold start to the day under clear skies, and almost unbroken sunshine.