



## THE WEATHER OF 1993.

1993 was an average year in many respects, and very changeable. Only a few records tumbled, mainly for cold, and it was a much windier year than usual.

1993 was not a particularly noteworthy year weather-wise, producing no extremes of heat or wet, though some long-standing records were broken. The year ended with a ranking of 19th out of the last 38, making it indeed, a very average one.

The means of maximum, minimum and mean daily temperatures were all exactly on the 30-year averages, though the last highest maximum of 25.6C (78F) recorded on July 4th, was almost 3 degrees below the long-term mean and the lowest summer maximum since 1972. Only 4 days were "hot" (maximum above 25C) as opposed to the 16 in 1990 and 9 last year.

The coldest months were October and November, both breaking records in this respect. October 17th with an air minimum of minus 5C (23F) was the coldest October night on record, whilst

November 23rd with a day maximum no higher than minus 2C (28F) was the coldest November day in records going back to 1956.

Rainfall was marginally below average, though May, October and December were very wet months. Again, 1993 saw no fall in excess of 25mm or an inch, the heaviest being the 21.6mm (0.85in) on November 13th.

Sunshine ended roughly on average, though the number of sunless days was up on normal. July was a sunny month with almost 7 hours bright sunshine daily, and a near-maximum of 15.2 hours was registered on June 25th.

Lying snow was only one fifth expectation, with snow or sleet falling on fewer days than is customary, 17 instead of 25.

Hail, fog and thunder were all well below average, though it was a very windy year. In all 1082 gusts above gale force were recorded against the norm of 532. Three full gales occurred, all in January when gusts to 54 knots (62mph) were noted.



## A SYNOPSIS OF THE WEATHER OF 1993.

### JANUARY.

A variable month. Maximum air temperature of minus 1.1C (30F) on the 30th was the coldest January day since 1987. In contrast, by the 16th air temperatures had climbed to 13C (55F), the mildest since 1983! Mean daily temperatures ended 2C above 30-year mean.

Sunshine down to 73% of average with 13 sunless days.

Rainfall marginally down, though rain-days at 23 well above mean for month.

### FEBRUARY

Very dry with only 7.7mm (0.30in) of rain, lowest since 1959 and second driest on record.

Also a dull month with half of the period sunless, the 15 days from the 6th to 20th providing only 3.5 hours sunshine.

Mean daily temperature 0.8C

above 30-year mean, with mean minimum 1.2C above normal. Air and ground frost marginally below average.

### MARCH

Another dry month, the 17mm (0.67in) the driest since 1961 and second driest on record. Rain on only 7 days, second lowest on record.

Warm with mean maximum temperature 1.4C up on normal. Air frost down, but ground frost up, on normal.

Above average sunshine with only 5 sunless days.

### APRIL

Maximum temperature of 23C (73F) on 29th warmest April day for 9 years and second warmest on record. Also second highest monthly mean maximum with 9.2C (49F).

A wet month however, with 71.9mm (2.83ins) of rain, 20% above

normal. Wettest day, the 28th, saw 14.4mm (0.57in) fall in 12 hours.

Exceptionally dull with only 97.4 hours bright sunshine, worst for 27 years and second dullest on record.

### MAY

Cold at first, warming to a peak of 23.8C (75F) on the 24th, with means marginally above average.

Wet with 10% more rain than usual with a fall of 32mm (1.26ins) in just 6 hours on the 26th, the second heaviest May fall on record.

Sunnier than usual by some 10%, with only 4 sunless days.

Three thunderstorms occurred, one with hail.

### JUNE

A slightly warmer month than average, temperatures ranging from 25.6C (78F) on the 30th to 4.5C (40F) on the 25th.

Rainfall about average for the month, though heavy rain occurred on the 11th.

Sunshine above the 30-year mean, with 59 hours over the final 4 days.

## JULY

A poor month for "summer", air temperatures being down by as much as 1.8C and only one "hot day" with a "near-frost" on the 13th. The coolest July since 1988.

Also wet, with 10% more rain than usual, falling over 14 days.

However, it was a sunny month with 204 hours and only one totally sunless day.

## AUGUST

A very dry month with only half of the expected rainfall. Driest since 1973 and fourth driest since records began in 1946.

Sunshine also up on average, with only one sunless day and over 12 hours bright sunshine on the 16th.

However, decidedly cool, the mean daily of 14.2C (58F) being 1.4C below the 30-year mean. Coolest August since 1986 and fifth coolest on record.

## SEPTEMBER

Coldest September since 1986 and sixth coolest on record. Maximum of

24.4C (76F) on 1st though a ground frost occurred on both 18th and 26th.

Also a wet month with 71.9mm (2.83ins) falling over 17 days, a third above average.

Dull with 87 hours sunshine and 5 sunless days. However, the 12.4 hours on the 1st equalled the September sunshine record first set in 1982.

## OCTOBER

An exceptional month, ending the second coldest October on record. Mean maximum of 16.5C (61.7F) fifth lowest on record. Minimum of -5C (23F) on the 17th the coldest October night since records began. Air frosts at 6 also set a record for the month.

It was the fourth sunniest October on record, and best since 1971. However, it was also the wettest since 1990 and the tenth wettest since 1946. Well over the month's usual rainfall fell over the first ten days.

## NOVEMBER

Another extreme month with the coldest November day on record on the 23rd with an air maximum failing to climb above -2C (28F). Both the mean maximum at 7.1C (45F), and the mean minimum at 1.5C (35F) were also lowest ever here.

The second highest incidence of ground frosts at 19, with 11 air frosts,

almost double expectation.

Sunshine 90% of average with over 43% of the days totally sunless.

Snow or sleet observed on 4 days, though none lay on low ground. Severe wind chill to -10C on the 29th in fresh easterly winds.

## DECEMBER

Basically unsettled with SW winds and low pressure areas crossing country.

A wet month with rain on 26 days, worst since 1966 and second wettest spell on record. Rainfall a third above average. with snow or sleet on 6 days.

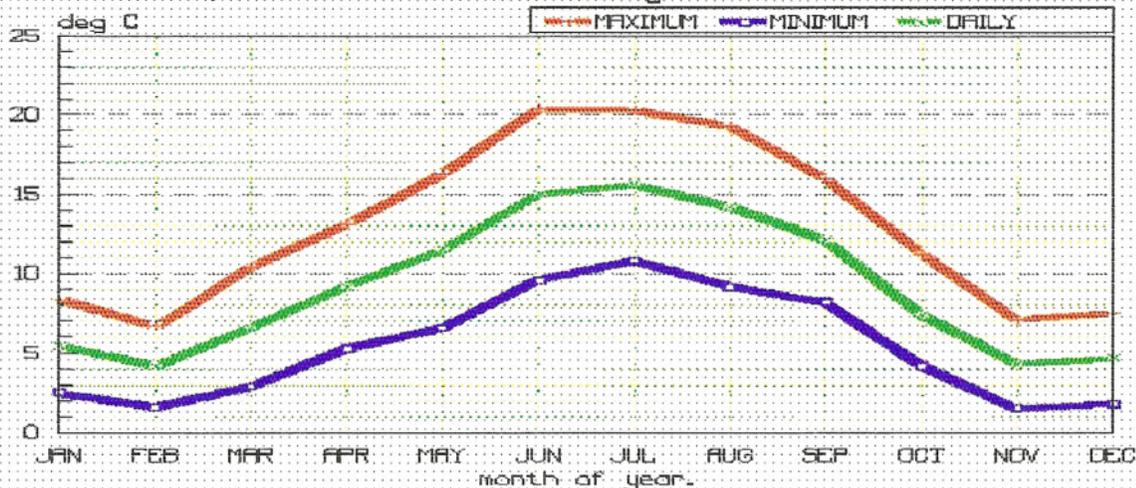
Slightly warmer than November but 18 ground frosts up on average. Air temperatures all normal.

Sunshine about average with the 10 sunless days best since 1979.

A windy month with 243 gusts above gale force though no day of gale reported.

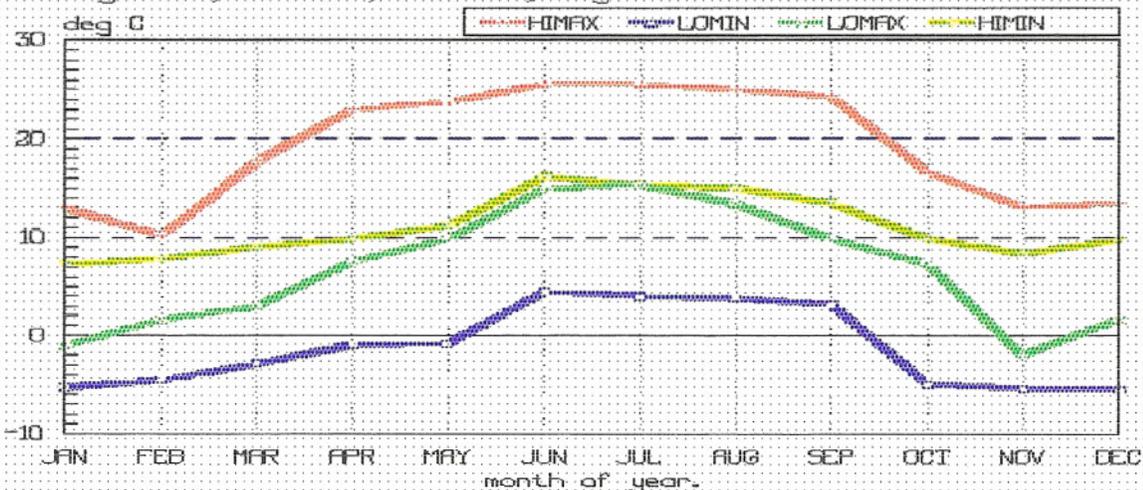
### HALESOWEN CLIMATE STATION. Mean air temperatures. 1993.

Mean max, mean min and mean daily.



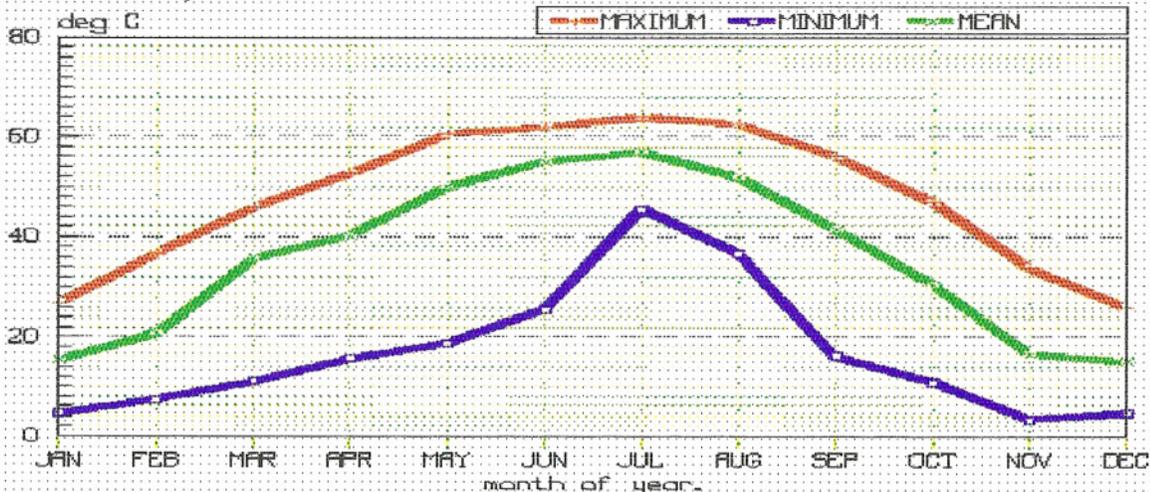
### HALESOWEN CLIMATE STATION. Extreme temperatures 1993.

High max, low min, low max, high min



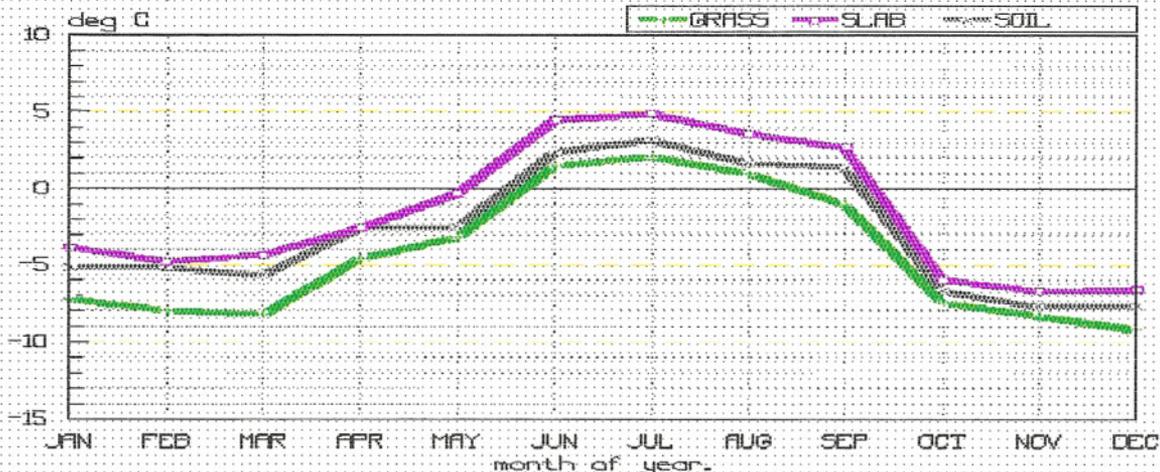
### HALESOWEN CLIMATE STATION. Solar radiation temperatures. 1993.

Maximum, minimum and mean.



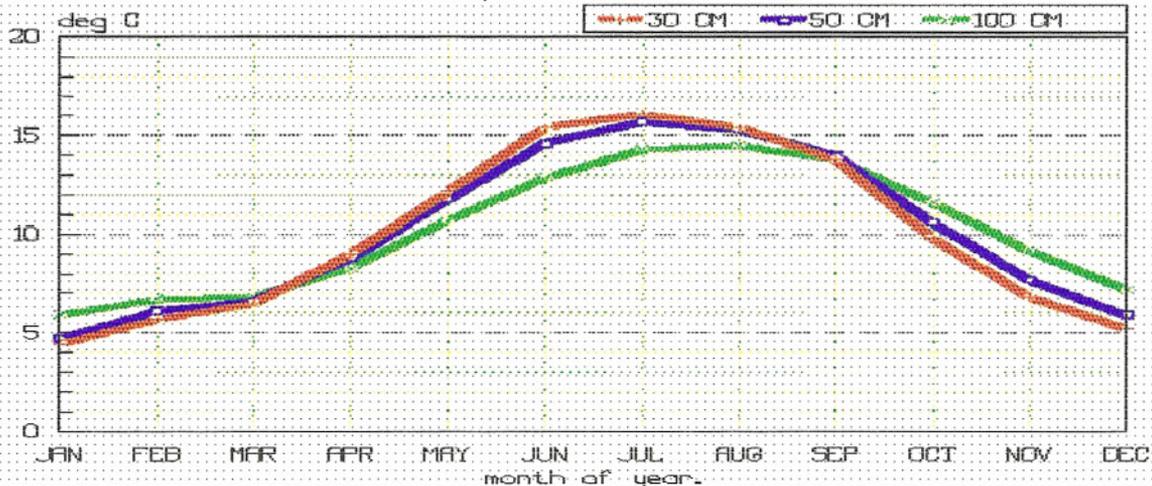
HALESOWEN CLIMATE STATION.  
Ground radiation temperatures, 1993. Minima

Grass, slab and soil surface.



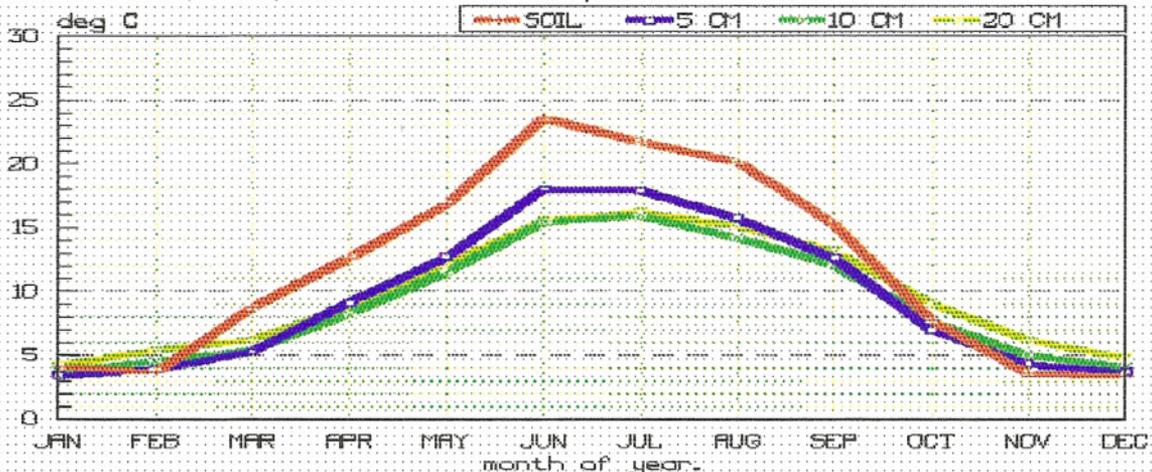
HALESOWEN CLIMATE STATION.  
Mean earth temperatures, 1993.

30cm, 50cm and 100cm depths.

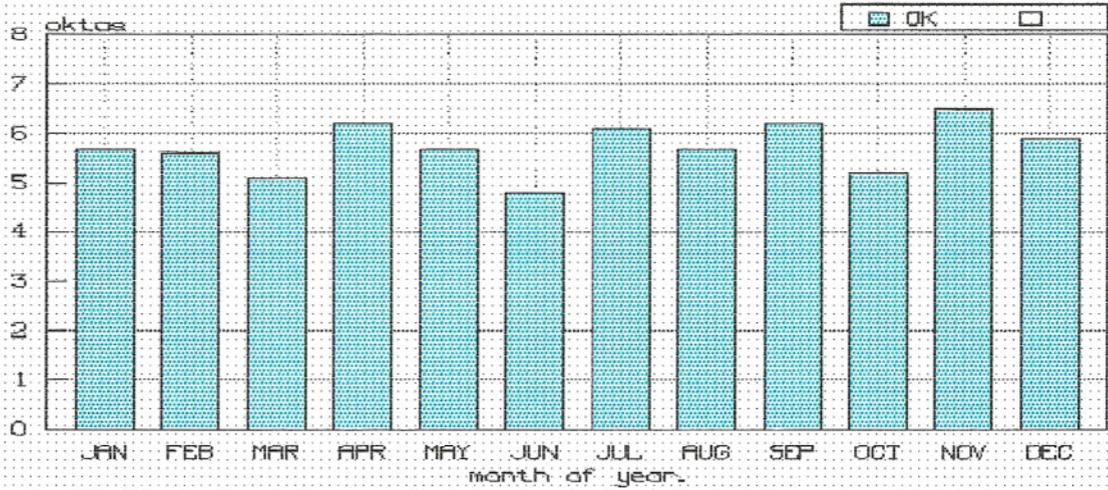


HALESOWEN CLIMATE STATION.  
Mean soil temperatures, 1993.

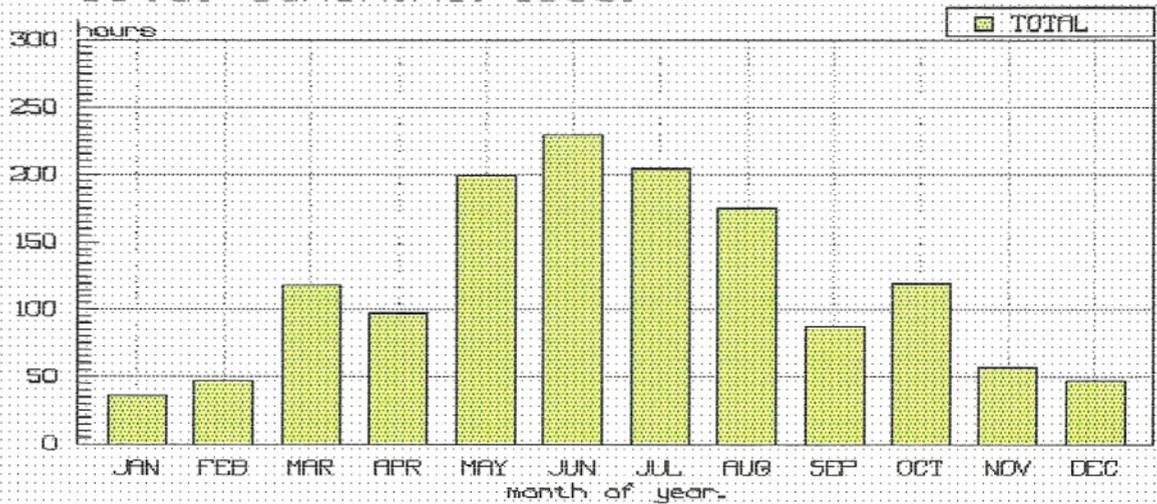
Surface, 5cm, 10cm and 20cm depths.



HALESOWEN CLIMATE STATION.  
Mean cloud cover. 1993.

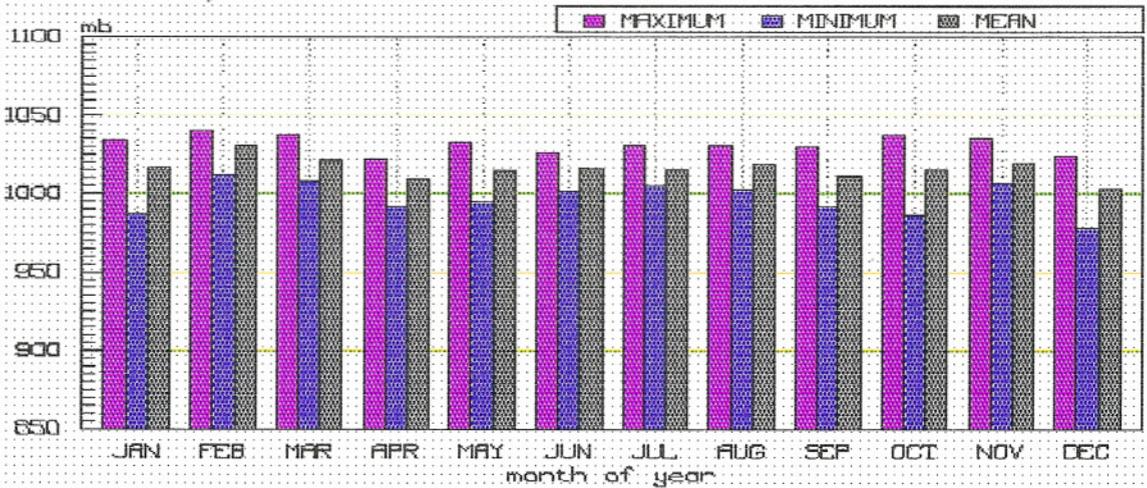


HALESOWEN CLIMATE STATION.  
Total sunshine. 1993.



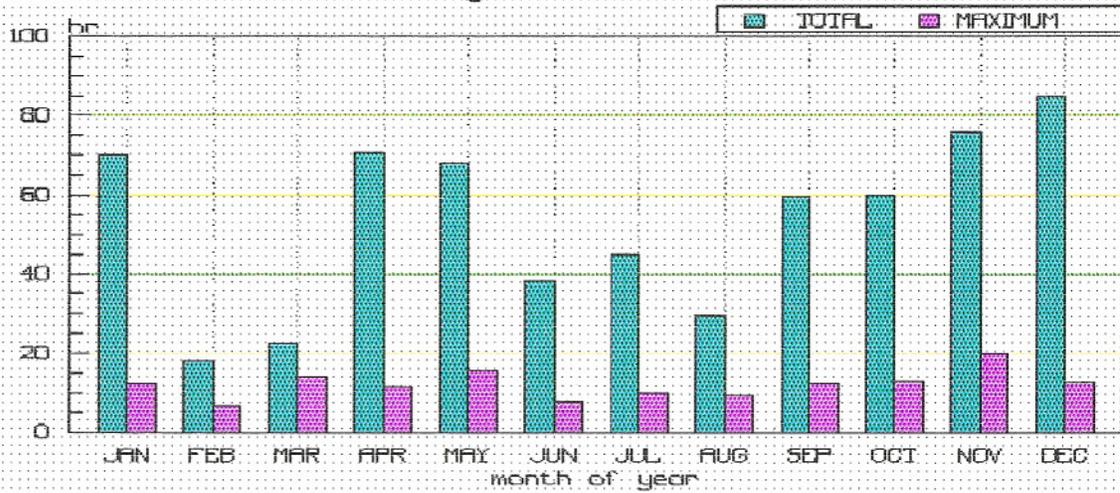
HALESOWEN CLIMATE STATION.  
Mean sea level pressures. 1993

Maximum, minimum and mean.



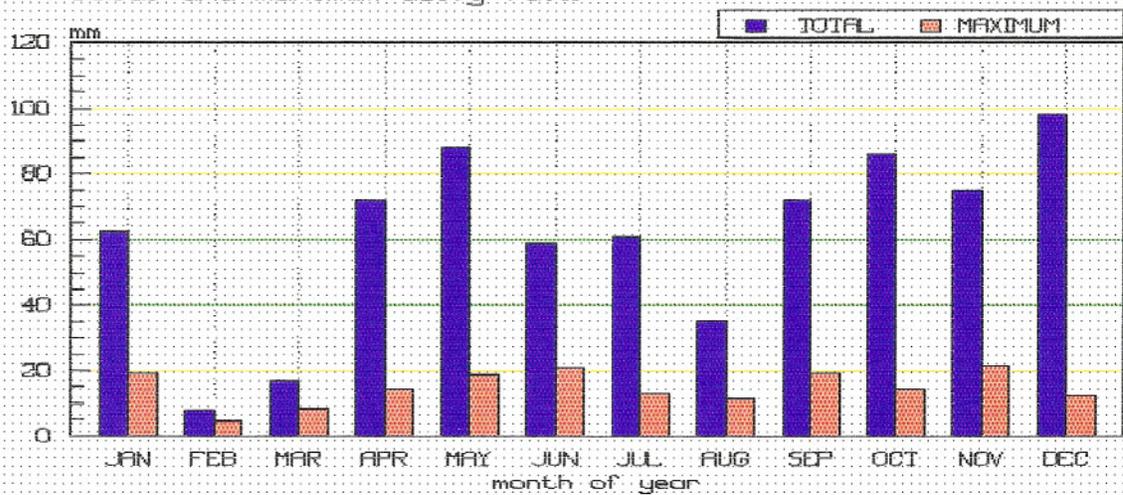
### HALESOWEN CLIMATE STATION. Rainfall duration. 1993

Total and maximum daily duration.



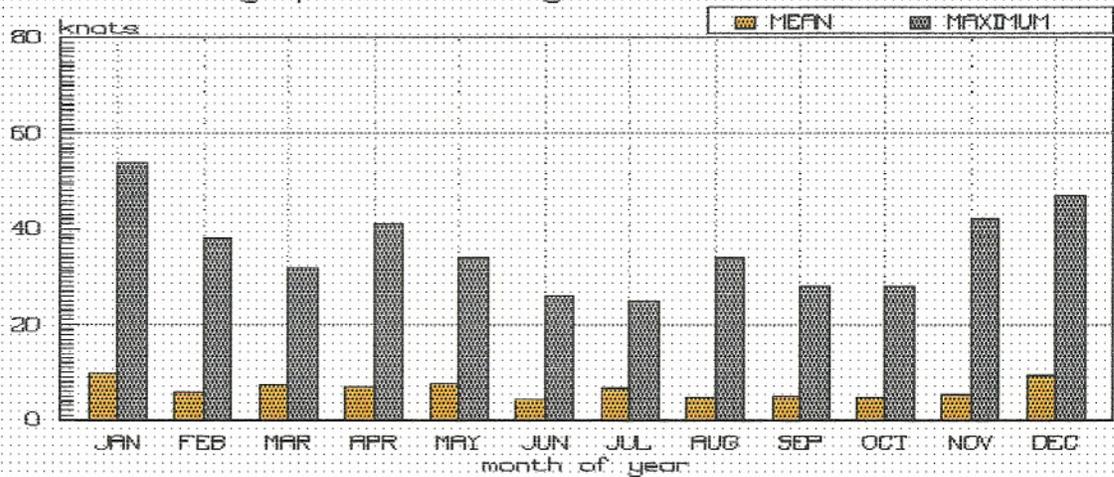
### HALESOWEN CLIMATE STATION. Total rainfall. 1993

Total and maximum daily fall.



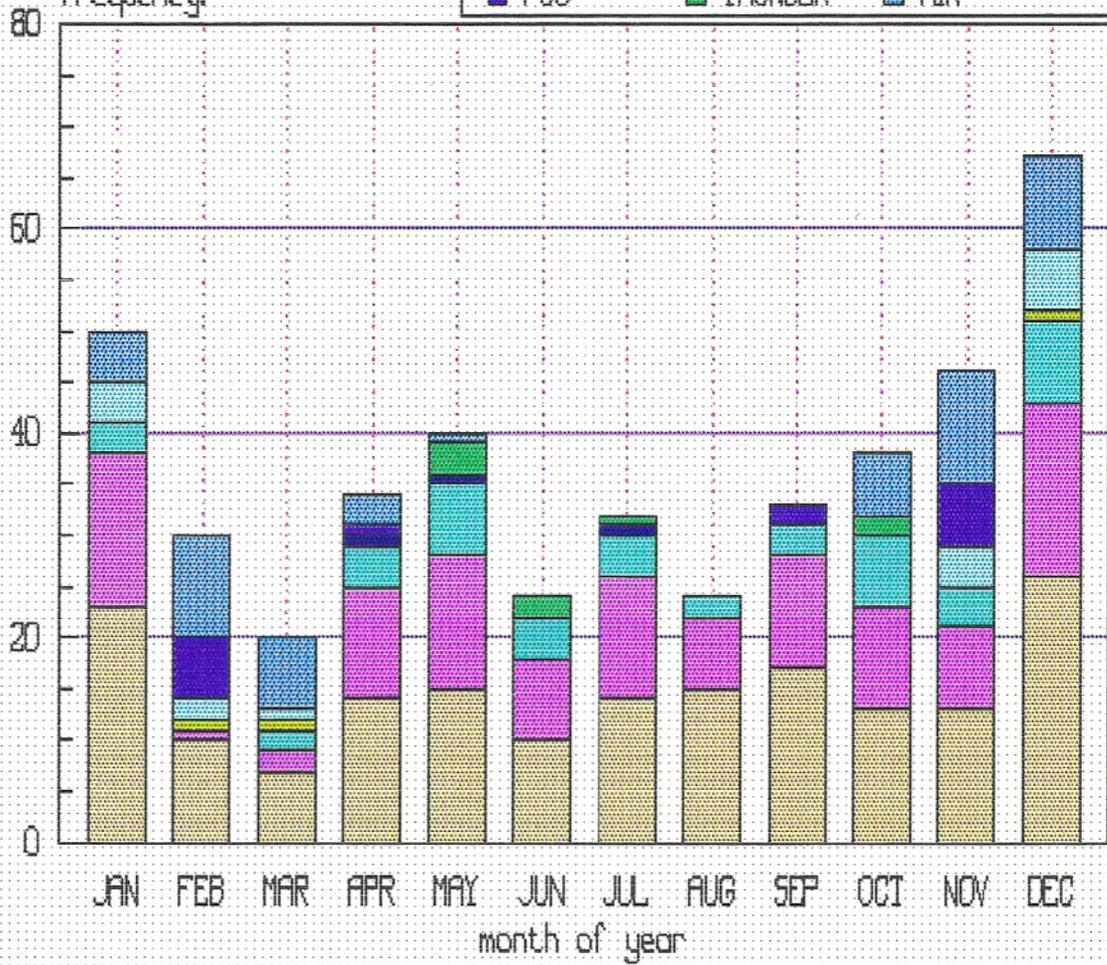
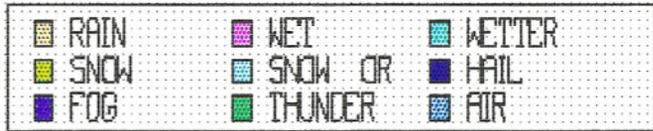
### HALESOWEN CLIMATE STATION. Wind 1993

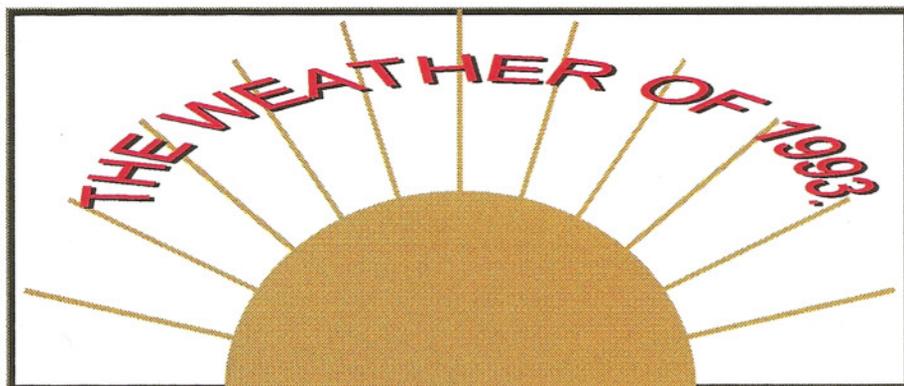
Mean hourly speed and max gust.



# HALESOWEN CLIMATE STATION. Weather 1993

Selected elements.  
frequency.





## **JANUARY.**

A month of very contrasting weather. It began cold, the air temperature failing to rise above minus 1.1C (30F) at all on the 2nd., giving the lowest January day maximum since January 12th 1987. Yet, by the 16th the air temperature had climbed to 13C (55F), the mildest January day since 1983 and the third warmest on record. Mean daily temperatures ended around 2C above the 30-year mean, frost in the air being less than half expectation.

It was also a dull month, sunshine ending 73% of normal, and with 13 totally sunless days. Despite this, 9 a.m. cloud amounts were marginally below average for January.

Rainfall was 93% expectation, and fell on 23 days, well above normal and the worst since 1988 giving the fifth equal wettest spell since at least 1946.

The month was also windy, gale force gusts occurring on 9 days to a maximum of 62 mph on the 23rd. The 771 gusts exceeding gale force (39 mph) made it the windiest January in over a decade.

## **FEBRUARY.**

February, statistically the driest month of the year, almost broke the record this year. With a mere 7.7mm (0.30 in) of rain it was the driest since 1959 (34 years) and the second driest on record for Halesowen. Almost 60% of the month's fall occurred on

the 25th in a little over 6 hours.

It was also a dull and dreary month, half of the days being totally sunless. The 15 days from the 6th to 20th inclusive saw only 3.5 hours of sun, whilst the 10 consecutive days from the 6th to the 15th saw no sun at all.

Fog was also persistent on 6 days, the worst since 1985, though it was not unduly cold. The mean daily temperature ended 0.8C above, and the mean minimum 1.2C above, the 30-year means. The 16 ground frosts were 93%, and the 10 air frosts 85%, of the averages for the month.

Had it not snowed on the 28th, the final day of winter, 1993 would have been the first winter on record here to have been without some snow cover. As it was it was patchy and less than 1cm deep.

## **THE WINTER OF 1993.**



In overall conditions, another fairly average winter.

Temperatures were slightly up on normal, especially on the ground, the grass minimum of minus 8.7C on December 30th being 4C above average. Air frosts at 29 were 4 below usual though ground frosts were 1 above expectation.

Rainfall was considerably below

expectation, the 151 mm giving another unusually dry winter, though December 1st, with 31.2mm (1.23ins), was a very wet day.

Snow was again very sparse, occurring on only 6 days out of the customary 16, a phenomenon which seems to be a significant feature of recent winters.

It was a duller season than usual with only 131 hours of bright sunshine and 41 sunless days (normal 37).

Three gales occurred, all in January, with gusts to 62 mph. Air pressure in both December and February was exceptionally high, reaching 1041.7mb on December 28th.

## **MARCH.**

Another dry month, the 17mm (0.67in) of rain giving the driest March since 1961 and the second driest on record. A normal March sees a fall of 61.6mm (2.43ins). Rain fell on only 7 days, the second lowest to the record of 5 days set in 1990.

Sunshine totalled 118.6 hours, above average, but nowhere near the record 166.5 hours set in 1961. Only 5 days saw no sun at all.

Mean temperatures were all up on the 30-year values, by as much as 1.4C for the maximum. The warmest day, the 15th, produced a maximum of 17.7C (64F), some 4C below the record of 21.7C (71F) set on March 29th 1965. Air frost was slightly down, and ground frost slightly up, on normal.

Snow lay to a depth of around 1cm here and on adjacent high ground only on the 1st, making the month another exceptional one in this respect, though no hail, gale or thunder was reported.

## APRIL.

The 29th was the warmest April day in the Halesowen area for 9 years and the second warmest on record, with a maximum of 23C (73F). The previous record of 23.5C (74F) was set on the 25th April 1984. The month also produced the second highest monthly mean of 9.2C (49F) bettered only by the 9.3C of 1961.

However, it was a wet month, 71.9mm (2.83ins) of rain falling, a fifth up on normal. Measurable rain occurred on 14 days with 11 being wet and 4 very wet. The highest daily fall of 14.4mm (0.57in) was on the 8th in a period of just 12 hours.

April was also exceptionally dull with only 97.4 hours of sunshine, the worst for 27 years and the second dullest on record. April 1966 produced a mere 2.5 hours. Not until the end of the month did the sun appear in strength, 11.2 hours being recorded on the 29th, over a tenth of the month's entire total.

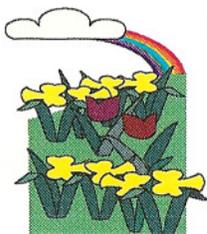
## MAY.

After a cold start with frost on the 4th, temperatures rose gradually to peak at 23.8C (75F) on the 24th, giving monthly means slightly above the 30-year averages at all levels.

Rainfall, some 10% above usual, fell almost entirely over the final three weeks, by far the heaviest fall being the 32mm (1.26ins) in the six and a half hour period from 5 am to 11.30 am on the 26th under a slow-moving and heavy thunderstorm. This produced the second heaviest May fall on record, the worst being the 39.2mm (1.54ins) on May 25th 1968.

Sunshine was above average, also by 10%, with four days totally sunless, the best day being the 4th with 13.1 hours bright sunshine.

Hail occurred once, with three thunderstorms. Frost in the air was noted on one morning, and on the ground, on three.



## THE SPRING OF 1993.

The spring ranked sixth in overall conditions since 1956 making it yet

another very open season.

With a mean daily temperature of 9.1C (48F) it was slightly below the 9.8C of 1992 but still 1.1C above the 30-year mean. All soil temperatures were well above normal levels, with grass minima very near to the average. Both grass and air frosts were down on usual.

Rainfall was only marginally below normal at 177mm (6.97ins), with the number of rain days being considerably better than average.

Sunshine at 415 hours was near to the 30-year mean of 414 hours, though the 16 sunless days was worse than expected.

No gale was reported, though gusts to gale force occurred in both April and May, reaching 47 mph.

## JUNE.

June ended with a flourish of summer, temperatures peaking at 25.6C (78F) on the 30th, and with over 15 hours bright sunshine daily from the 27th to 29th. This gave a monthly mean temperature some 1C above average. The coldest night, the 25th, saw a low of 4.5C (40F) in the air and 1.5C (35F) on grass. Radiation temperatures were very high, with 5 days reaching 60C (140F) and peaking at 62C (144F) on the 2nd. Two days were hot with air maxima above 25C (77F).

Rainfall was about average, though the fall at a rate of 72mm/hour (2.82ins/hour) on the 11th was by far the heaviest of the month. Only 10 days saw rain, much better than normal, and just two thunderstorms occurred.

Sunshine was above the 30-year mean, the final 4 days providing 59 hours out of the month's total of 230 hours. Only 2 days were totally sunless, itself better than usual.

## JULY.

July was a rather poor month with temperatures depressed on normal values, all those in the air being down on average by as much as 1.8C. Only one day, the 4th, was hot, with a "near frost" on the 13th, giving the coolest July since 1988.

Rainfall was a tenth above average, with 14 days of rain, itself 12% above

normal. Total rain duration was 45 hours, well above expectation.

In slight compensation, sunshine was a tenth up on average at 204 hours, only one day being totally sunless. The 5th, with 13.2 hours bright sunshine was the best day.

Thunder was reported once, as was hail, but there was no occurrence of fog.

## AUGUST.

August was an unusual month, being much drier than usual and quite sunny, yet cooler than for several years.

Rainfall was less than half expectation at 35mm (1.38ins), with 15 days recording measurable rain, though only 7 were considered wet. It ended being the driest August since 1973 and the fourth driest on record.

Sunshine was also above average by over 7 hours, with only one totally sunless day. Four days registered over 9 hours, and one day, the 16th saw over 12 hours of bright sunshine.

However, it was not a warm month, temperatures in the air being depressed by 1C for the mean maximum and almost 2C for the mean minimum. The mean daily temperature of 14.2C was 1.4C below the 30-year mean giving the coolest August since 1986 and the fifth coolest on record. Grass temperatures on the 24th fell almost to zero, reaching a mere 1C (34F).

## THE SUMMER OF 1993.



The season fell into the top third of the last 37 summers in general conditions, between those of 1959 and 1989, despite some adverse conditions.

It was the eighth sunniest since 1956 with 609 hours of sunshine, only 4 days being totally sunless, the best since 1985 which had 3. The sunniest day, June 28th, registered 15.2 hours from a possible maximum of around 16 hours.

It was also the driest summer for 3 years with a total of 154mm (6.08ins) against a norm of 187mm (7.36ins). In all, rain was recorded on 39 days, 27 of which were wet, and 10, very wet. There was no fall greater than 25mm (an inch) and thunder occurred on only three occasions, half of expectation.

Temperatures held up well to normal in most instances, the mean daily of 14.9C (59F) being only 0.3C below the 30-year mean.

However, the daily maximum of 25.6C (78F) on July 4th was the lowest summer maximum since 1972, which then only reached 25.2C (77F).

### **SEPTEMBER.**

This was the coldest September, on average, since 1986 and the sixth coolest on record. After a very warm start with 24.4C (76F) on the 1st, maximum day temperatures quickly fell to values well below the mean of 23.1C. Ground frost occurred on both the 18th and 26th.

Rainfall was well above normal at 71.9mm (2.83ins) and fell on 17 days, a third above average. Rain duration at 59.5 hours was almost 60% above expectation, the heaviest fall occurring on the 12th.

Sunshine was also well down on average at 87 hours, though the 12.4 hours on the 1st equalled the record first set on September 2nd 1982. Five days were totally sunless, also well above normal.

Fog occurred on 2 days though there was no incidence of thunder.

### **OCTOBER**

October produced some quite exceptional, and extreme, weather conditions. Records were broken in several areas.

The first 10 days saw 80.1mm (3.15ins) of rain fall, well in excess of the normal for the entire month, yet the final

10 days were practically dry, a mere 0.3mm (0.02in) falling, mainly from slight drizzle.

Similarly with sunshine, the final week seeing no sun at all, preceded by an exceptional 40 hours recorded just one week earlier. October thus ended the fourth sunniest on record and the best since 1971, in addition to being the tenth wettest in the last 38 years, and the worst since 1990.

It was also a cold month, resulting in the second coldest October on record (the worst was last year). The maximum temperature of 16.5C (61.7F) was the fifth lowest October maximum ever recorded here, whilst the low of minus 5C (23F) on the 17th was the coldest October night in Halesowen since records began in 1956.

The month also produced the second lowest ground temperature in 38 years at minus 7.5C (18.5F), also on the 17th. The six air frosts also set a new record for October, the 9 ground frosts being the sixth highest on record for the month.

### **NOVEMBER.**

An exceptional end to Autumn!! November 1993 saw the coldest November day on record in Halesowen when the air maximum failed to rise above minus 2C (28F) at all on the 23rd. The mean minimum of 1.5C (35F) was the lowest for 5 years and the fourth lowest on record, whilst the mean maximum of 7.1C (45F) was the lowest for 8 years and the second lowest on record. This made November 1993 the coldest overall for 8 years and the second coldest since records began.

Ground frosts occurred on 19 nights, the second equal highest incidence (the worst was 1988 with 23), with the 11 air frosts being almost double the expectation for the month. As a result, the mean 100cm earth temperature of 9.2C is the lowest ever recorded for November.

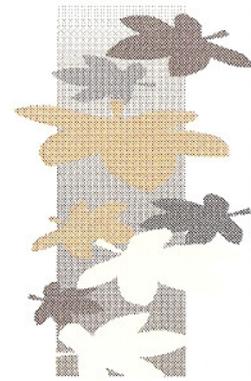
Sunshine was only 90% of expectation, with 43% of the days seeing

no sun at all.

Snow or sleet occurred on 4 occasions, though no substantial amount lay on low ground. Fog was twice as prevalent as usual, occurring on 6 days.

Gusts to gale force occurred on 61 occasions over 2 days, and this, combined with the low temperatures at the end of the month produced wind-chills in the region of minus 10C on the 29th.

### **AUTUMN 1993.**



This Autumn was the second most inclement on record for the district, behind that of 1965. In almost all respects features were considerably worse than expected.

Temperatures were markedly depressed, the mean daily of 8.0C (46F) being 1.9C below average and the lowest on record for Autumn. Both the mean maximum at 11.4C (53F) and the mean minimum of 4.6C (40F) were similarly the lowest on record here.

Rainfall totalled 233mm (9.17ins), well above normal for the season, and the wettest since 1987, though rain days were slightly down on normal. However, no day produced a fall of an inch (25.4mm) the wettest day being November 13th with a fall of 21.6mm (0.85in).

Sunshine totalled 260 hours, 32 hours below average and the dullist since 1984, with 28 sunless days, the same as last year but still 8 above the 30-year mean.

Snow or sleet occurred on 4 occasions, the highest incidence since 1986, though no snow lay on low ground. The last Autumn lying snow was in 1988.

Air frosts at 19 were well above the expected 8 and were the highest on record, whilst ground frosts totalled 30, some ten above normal and the worst since 1988.

Fog occurred on 8 mornings, and thunder on 2 days, both close to normal for the season.

## ***DECEMBER***

December was basically a very unsettled month with predominantly SW winds and a succession of low pressure areas.

It was also a wet month, rain falling on 26 days, the wettest spell since 1966 and the second wettest on record. The 98.3mm (. 3.87ins) of rain was a third above average and the wettest since 1989. Snow or sleet occurred on 6 days, with snow lying on one, the 28th.

The month was slightly warmer than November, temperatures being about average at all levels, ranging from 13.5C (56F) on the 19th., to minus 5.5C (22F) on the 27th. Ground frosts at 18 were up on the 30-year mean, though air frosts were near to normal for December.

Sunshine broke about even with 47 hours, 5.5 hours occurring on the 10th. The 10 sunless days was the best since 1979 which had 9, the normal being 14.

It was the windiest December since 1986 with 243 gusts above gale force, though no day of gale was recorded.