

## SUMMARY FOR 2003

The most significant feature of the past year has been the dearth of rain, the total of 555.4mm/21.87ins being the second lowest total on record here in data back to 1946, the previous low of 551.9mm/21.73ins occurring in 1975. Rain duration at 540.3 hours was itself the 10<sup>th</sup> lowest in the same period, whilst the heaviest daily fall, 32.3mm/2.27ins from the 22<sup>nd</sup> June being the highest in 3 years. In all rain fell on 161 days, the lowest total since 1990 [157] whilst 34 were wetter days [in excess of 5mm/0.20in] the lowest total since 1975 [32] which was a year with a very hot summer. Just 5 months, January, February, October, November and December had rainfall totals in excess of evaporation producing a water deficit for the year of 128.4mm/5.06ins, substantial by any standards.

The year produced ample sunshine again with almost 25% above the 30-year total, the best figures since 1995 and the 3<sup>rd</sup> best since records began in 1956. The 15.3 hours sunshine recorded on 20<sup>th</sup> June was the highest since 1<sup>st</sup> June 1997 [15.5 hrs] whilst the 47 sunless days was the lowest total since 1999 [46]. Overall 72 days saw in excess of 9 hours daily, the highest since 1995 [82] with 25 days providing in excess of 12 hours daily, also the best since 1995 [36]. It is in the field of sunshine that one can detect a marked change in climate as annual totals rise appreciably with winters being far sunnier than earlier decades.

Temperatures have also performed well; the mean air temperatures holding up to established figures. The mean maximum of 14.8C/58.6F was the highest since 1990, the highest daily of 33.1C/91.6F from 18<sup>th</sup> June providing the highest figure since 3<sup>rd</sup> August 1990. The mean daily of 10.3C/50.5F was the same as last year but 0.7C up on the 30-year mean, again showing evidence of climate change. Hot days numbered 29, the highest since 1995 [41], with the 9 cold days being the highest since 1996 [16]. There were 8 cold nights, the most since 1991 and the same as in 1995 and 1992.

Grass temperatures in the colder months reached a low of -9.0C/15.8F on 8<sup>th</sup> January giving the highest data since 20<sup>th</sup> December 1999. Black bulb radiation temperatures peaked at 60.3C/140.5F on 15<sup>th</sup> July which was the lowest figure for 3 years. However, both the minimum black bulb and the mean black bulb temperatures were the highest on record for this site. Soil and earth temperatures in fact showed little deviation from their expected values.

Wind data was rather unusual in that there appears to be a diminution in the level of gales, none having been re-

corded again this year. In fact the maximum gust of 36 knots/43mph for the 2<sup>nd</sup> February was one of just three times that the wind speed exceeded gale force during the year. Again the prevailing direction was south westerly and generally light at a mean speed of 5.8knots/7mph.

Thunder was heard on 12 occasions, the lowest records since 2001 [18] with snow flakes recorded on 16 days, down on average. Air frost occurred on 64 occasions [average 50] with ground frost on 111 occasions [average 104], both in excess of expectation. Fog occurred on 7 mornings, the lowest since 1998 [6].

The year has thus continued to show marked changes in climate to be taking place, changes that must lead to significant changes to our pattern of life in the next two decades if they continue in this pattern.