

DUNBLANE WEATHER REPORT 2007

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Introduction

It is with regret that we must record that the University meteorological station at Parkhead is probably dead. After refitting with new automatic recording features in 2004 it offered the prospect of being able to monitor the weather of Stirling semi-automatically with an increased number of parameters, including hourly measurements of temperature and of sunshine becoming available. The availability of a set of normals established over the 30 years (1971-2000) made its use very attractive. The station last recorded useful data in 2006.

It seems to have been a problem of vandalism and failing power supply – batteries, or was it just our expectation that “automatic” meant “maintenance free”.

The 2007 weather report has been prepared from data taken from a private recording station in Dunblane. Data from this station has been used before whilst Parkhead was off line.

Neil Bielby has recorded the weather in Dunblane since 1995 and all averages etc. refer to the last 13 years. The Parkhead normals figures are included after the Dunblane 13 year averages, for this year, for comparison. It should be born in mind that the averages also cover different years.

The weather station is in a suburban back garden in Ochiltree, Dunblane, situated 50 metres to the east of the Dunblane Hydro ridge, 100 metres a.s.l., in a shallow, sheltered valley.

Daily rainfall, maximum and minimum temperatures, barometric pressure, cloud cover and wind direction and speed (Beaufort Scale) are recorded. All except the maximum daily temperatures are recorded at 09.00h. A brief description of the day's weather is also recorded along with notes on exceptional and unusual weather phenomena across the UK and worldwide.

2007 – Highlights

The overall mean temperature was only 0.02°C above the long term average of 8.6°C with night lows 0.03°C below the norm and day highs 0.08°C above it. This was a full degree below the annual mean for the UK of 9.6°C, the latter being the second warmest year on record. In Scotland, it was the third warmest since records began in 1914 and April, with a mean temperature of 10.2°C, was the warmest yet.

There were, as usual, seasonal variations. The mean temperature for the winter period (Dec-Feb) was +0.97°C on the average with the spring (Mar-

May) mean also up by 0.6°C. By contrast, it was the coolest summer since 1998, 1.57°C below the average and 4.55°C below the previous summer! The maximum temperature of 23.8°C was the lowest yearly high to date – some 3.64°C below the mean. The night-time high of 14.2°C was also the lowest annual one yet. Autumn temperatures were just 0.02°C above average.

Total precipitation of 1075.2 mm was slightly below the annual mean of 1101 mm. This however masked some marked seasonal variations. The winter period (Dec–Feb) was the wettest to date, 65 % above the mean. Spring (Mar–May) was only 1 % below normal but it was a wet summer with rainfall 39 % up on the average – the third wettest to date. Autumn was uncharacteristically dry with only 60 % of the normal precipitation – the second driest on record.

January was milder and much wetter than normal with a mean temperature of 3.77°C, 1.2°C above the norm. The average daily temperature was the highest to date at 6.18°C, 1.4°C above the mean and 0.28°C above the previous high. The maximum daily high of 11.7°C was equal to the previous high. 192.1 mm of precipitation made it the wettest January to date, 62.4 % up on the mean and 12 % above the previous high. This made it the seventh wettest month overall in 12 years with the last three months all being in the top seven. Average pressure was below the mean and the ten frosts were three fewer than normal. The garden pond was frozen on five mornings with snow lying on three. It was the warmest January since 1921 for England & Wales.

February was a little milder and drier than the norm with the mean average temperature of 3.75°C up 0.56°C on the mean. The average low was +0.54°C and the average high +0.6°C above the mean. The coldest temperature recorded was -8.1°C (7th) with the warmest being 11.2°C (1st). Precipitation at 81.3 mm was only 76 % of the norm, being measurable on 20 days with a day max. of 19 mm (27th). Air pressure fell to 974 mb (28th), equal to the lowest for the month. There were ten air frosts, two less than the norm with the pond being frozen on seven mornings and snow lying twice at 9 am.

Overall for the UK, the winter quarter of 2006/7 was the equal second warmest after 1868/9 since records began in 1659.

March was slightly warmer and wetter than normal with the mean temperature of +0.32°C and rainfall 20 % above average at 89.9 mm. There were eight frosts – two less than the norm.

April was the warmest to date with the mean temperature of 9.82°C being 2°C above the average and 0.89°C above the previous high in 1997. The average daily high of 14.96°C was 0.93°C higher than the previous best in April 2003. The lowest daytime max of 11°C was also a new high. These warm temperatures also coincided with the second driest April with only 26.5 mm being recorded (21.5 mm in 1995). The average barometric pressure of 1019 mb was equal to the previous high and there was only one air and one ground frost. It was also the warmest April for England & Wales since records began back in 1659 with a mean temperature of 11.1°C – 3.2°C above the average. It was also the sunniest since 1893 and the driest since 1984. UK wide there was

only 37 % of normal rainfall with 50 % more sunshine than the norm. In 2006 temperatures didn't breach 20°C anywhere in the UK until the 3rd of May; this year there have been twenty such days before the end of April.

May was cooler & wetter than normal with the mean temperature of 10.13°C being 0.79°C below the average. The average daily high was 0.08°C below that of the previous month! Rainfall, at 90.4 mm, was 25 % above average.

Elsewhere many fared much worse. The late-spring bank holiday weekend was one of the most miserable, with prolonged heavy rain and daytime temperatures the lowest in late May for over half a century. Afternoon temperatures of 5 to 7°C were the lowest in the last week of May since 1948 and play at the Headingley Test Match started on Monday morning (28th) with the temperature reading only 7°C, the lowest in recorded Test cricket history!

June was a little warmer and quite a bit wetter than normal. The mean temperature was +0.11°C with night lows 1.0°C above average and daytime highs 0.8°C cooler. Rainfall was 35 % above the norm with 106.5 mm falling on 20 days. June was the wettest in England & Wales since 1860 and the east coast of Scotland established new lows for sunshine with a total of only 64 hours in Edinburgh – barely a one third of the normal amount.

Daytime maximums remained depressed to the end of the month, the highest being 16.8°C (26th). Heavy downpours badly affected the Midlands & North of England on the 24th / 25th with much flooding in which four people were drowned. 112 mm fell at Fylingdales during this period. The area around Hull and Sheffield was particularly badly affected.

July was the coldest to date with the mean temperature 1.39°C below the average. Daily highs were 1.64°C below the mean with night lows 1.13°C below. It was also the wettest July since 2002 with 96.5 mm – 31 % above the mean, with rainfall recorded on 22 days. Averaged over England & Wales, July was the wettest since 1936 and the coolest since 1993.

The unsettled theme continued until the end of the month depressing temperatures with a maximum of only 13.5°C on the 19th. Such cold air-streams are prone to be very unstable under the summer sun. Hence, hailstones half the size of golf balls fell on Canterbury (15th), when the temperature peaked at 27°C at nearby Herne Bay. Daily maximums were a little better for the 23rd onwards, hovering around the 20°C mark. Torrential downpours occurred across southern Britain on the 20th with several sites in Oxfordshire, Gloucestershire and Worcestershire recording over 100 mm which resulted in much flooding in the river Severn, Avon, Thames and Great Ouse catchments areas. In Gloucestershire more than a third of a million people were left without freshwater. This was the most remarkable July rainstorm since 1969. By contrast, the Western Isles were virtually dry all week.

August was the coldest to date with a mean temperature 0.87°C below the previous low and 1.47°C below the mean. Averaged nationally, it was the

coolest since 1993. The average daily low was 1.06°C and the daily high 1.89°C below the mean. The daily high of 13.5°C (18th) was the lowest during August to date and the monthly max day high of 18.4°C was the lowest for August. The monthly precipitation total of 114.9 mm was 50 % above the norm and the third highest August total. Surprisingly, there were only 12 days when recordable amounts of rain fell and only 0.4 mm was recorded during the last 13 days of the month. Most of the rain fell during the first three weekends causing havoc with local cricket fixtures. The 35.4 mm which fell on the 18th was the highest ever daily amount for August.

September was cooler and drier than average with the mean temperature 0.88°C below the norm. The average night low was 1.47°C below the norm – the second lowest to date after September 1995. Precipitation at 57.9 mm was only 66 % of average with almost half of this amount falling on one day. There was measurable rainfall on only 12 days. The air frost on the 27th was the first September frost in 12 years

October was warmer and drier than normal with the mean temperature being +0.62°C above the mean, both the day and night means were above the average. There was only one frost. Rainfall of 63.1 mm was only 46 % of the norm making this the third driest October to date, with measurable rainfall recorded on only 15 days – the lowest number ever. Average pressure of 1020 mb was not only the highest yet for October but also for any month of 2007. The minimum recorded was 1004 mb, the first time that pressure in October hasn't fallen below 1000 mb.

Unsurprisingly then we had to wait until the 24th for the second frost of the winter –1.8°C on the 24th (–5°C in Aboyne, 25th) with dense mist persisting in the Carse of Stirling on both these days although it dispersed quickly in Dunblane to give sunny days .

November was milder and drier than average with the mean temperature 0.58°C above the norm and rainfall, at 80.3 mm, only 73 % of the mean. The min. temperature of 12.2°C during the night of the 1st / 2nd was the warmest November night to date being followed by the warmest November day, 15.2°C (2nd). There were an average number of air frosts with seven.

December's mean temperature of 2.36°C was exactly the same as the long term average with nights 0.33°C below and days 0.36°C above the norm. A succession of Atlantic fronts brought strong winds at the beginning of the month, particularly in the south of Britain with 67 mph recorded at Mumbles (Glamorgan, 1st) and 81 mph (Jersey Airport, 2nd). Pressure rose progressively to the 16th (1035 mb), reaching a UK high of 1040 mb on the 18th). The more settled conditions brought 16 air frosts, the pond was frozen on eight mornings and no snow fell. There was 75.8 mm of rain, 73 % of the norm, with measurable rain fall on 19 days. No more than 0.3 mm fell daily between the 9th and 21st – 13 days.

Table 1. Temperature and rain 2007. N. Bielby Climatological Station Dunblane

	Temp mean maxima	Temp mean minima	Number of Air Frosts	Total rain (mm)	Greatest fall (mm)	Number of days measurable rain
January	6.2 (4.8/6.5)	1.4 (0.4/0.5)	10 (13.5/13)	192 (118/110.7)	21.2 (40.0)	24 (19)
February	6.6 (6.1/6.9)	0.9 (0.4/0.8)	10 (13/11)	81.3 (106/73.2)	19 (31.8)	20 (16)
March	9.0 (8.6/9.1)	1.7 (1.3/1.9)	8 (10/7)	89.9 (74.9/81.4)	22 (44.0)	1 (17)
April	15.0 (12.2/11.8)	4.7 (3.4/3.4)	1 (5/4)	26.5 (60.4/47.5)	10.9 (35.3)	10 (13)
May	14.9 (16.1/15.3)	5.4 (5.8/5.8)	1 (1/1)	90.4 (72.3/56.9)	17.9 (28.3)	20 (14)
June	19.4 (18.2/17.7)	10.0 (8.9/8.4)	0 (<1)	106.5 (79/57.1)	29 (35.8)	20 (13)
July	19.4 (21.0/19.8)	9.6 (10.7/10.6)	0 (0)	96.5 (73.8/62.9)	28 (65.5)	22 (13)
August	18.4 (20.3/19.4)	9.5 (10.5/10.2)	0 (0)	114.9 (76.5/68.1)	35.4 (30.0)	12 (14)
September	15.8 (16.0/16.3)	6.9 (8.4/8.3)	1 (<1)	57.9 (87.6/87.7)	26.5 (44.2)	14 (15)
October	12.7 (11.8/12.9)	5.7 (5.4/5.4)	1 (3/2)	63.1 (137.7/97.9)	14.9 (66.2)	15 (17)
November	7.7 (7.5/9.2)	3.0 (2.1/2.6)	7 (8/8)	80.3 (109.8/98.9)	12.9 (68.3)	24 (17)
December	5.7 (4.4/7.2)	0.0 (0.3/1.1)	13 (13.5/11)	75.8 (103.2/101)	22 (43.8)	19 (18)
Year January-December 2007	13.6 (12.3/13.2)	6.2 (4.9/5.3)	52 (68/58)	979 (1045/943.3)	35.4 (68.3)	216 (186)

The Climatological Normals Bielby/Parkhead are shown in ()s

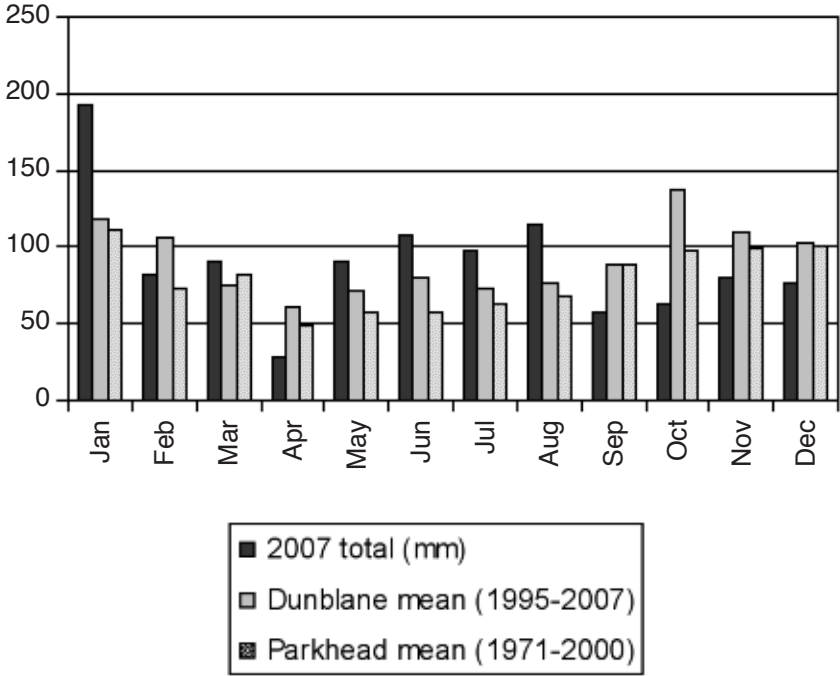


Figure 1. Rainfall 2007.