The Winter of 1947 in Halesowen, West Midlands

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This article relates to the three months from January through March 1947, a period of 90 days, which represented one of the most severe spells of weather encountered in England for very many years, possibly since the 17th century! Not only was there searing cold, but also exceptionally heavy falls of snow totalling more than two metres, awesome indeed for the U.K!

January 1947

January 1947 began fairly mild and wet, the first five days experiencing 17 mm of rain, but cooler air from the Continent brought a heavy fall of snow early on the 6th, and 9 cm lay on the ground by dawn on the 7th. During that day the snow turned to sleet then rain, and by the morning of the 9th most of the lying snow had become very patchy.

The weather then turned much milder under mainly westerly winds, with rain on most days until the 17th when it became fine and sunny. But cooler conditions returned on the 18th, although it was not until the 20th that night frosts again set in. By the 22nd much colder northeasterly winds were bringing frequent snow showers, leading to a full snow cover of 2.5 cm on the 23rd. Further heavy snow showers on the 25th and 26th brought the level snow cover to 13.5 cm. Heavy snowfall continued during the following two days as winds gusting to 28 knots caused widespread drifting up to depths of 2 metres in many rural areas while persistent frost kept daytime maxima at or below 0°C for the remainder of the month. The gusting southeasterly winds piled up ever deeper drifts, and many minor roads became almost impassable. Overnight temperatures tumbled to -10°C in the air and -13.3°C on the snow, and by the end of January, level snow lay 14 cm deep with drifts of up to 2.5 metres in isolated and open areas. Table 1 summarises the principal features of the month's weather. Thus ended the start of what was to be a memorable and extremely trying spell of severe winter weather.

Fig.1 - Walking to work along paths cut between the snowdrifts.

Measuring Snow-depth

Due to the very strong and gusting winds that blew for practically the whole month, it became necessary to make very careful estimates of snow-depth, due to the widespread and deep drifting which had occurred. Several measurements were taken across the plot, melt water was measured and converted, while a board was placed on a clear patch to estimate fresh falls. In addition, estimates were made on the farmland adjacent to the site to give a further idea of falls in 'open' areas. All depths of snow relate to the plot or its immediate environs. Conditions in open country could, and did, vary considerably and this is commented upon in the text.

February 1947

February was ushered in with brisk southeasterly winds and sub-zero temperatures, though no fresh snow fell on the first. However, further heavy snowfall began at around 4 a.m. on the 2nd and continuing fresh falls of snow and snow grains during the subsequent five days brought the 'level' snow to a depth of 19 cm with drifts over 4 metres in places. Winds remained in an easterly quarter throughout and gusted to 40 knots, causing severe wind-chill and blowing snow back into drifts as soon as attempts were made at clearance. By now most local roads were blocked and their clearance was becoming futile.

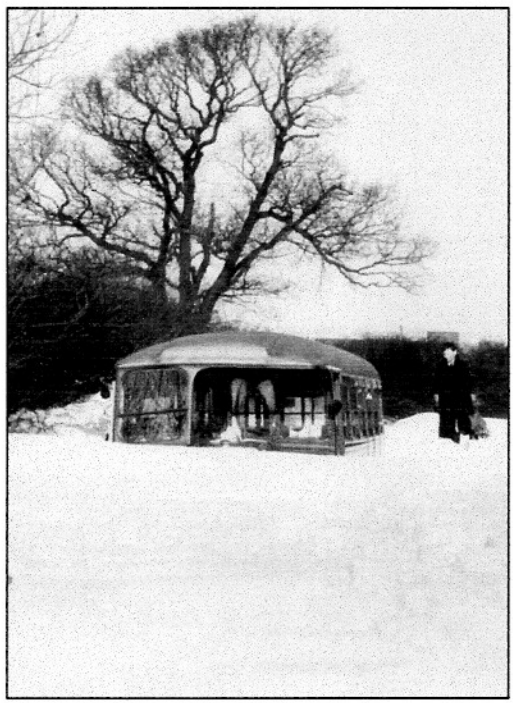

Fig.2 - A bus almost buried by drifting snow.

During that first week temperatures rose no higher than 1.1°C and fell at night to -4.4°C in the air and -6.7°C over the snowfield, with winds regularly gusting around the 30-knot mark and peaking at 40 knots. With the continued falls of snow, permanent frost and continuously overcast skies, Britain was akin to the Antarctic.

From early on the 4th, there ensued a period of sub-zero temperatures lasting the best part of 100 hours and it was not until the 9th that daytime maxima reached 1°C - and this rise lasted barely 48 hours! To add to the depression felt by many struggling in to work or school (neither factories, schools nor

shops closed), the skies remained totally overcast by day and night until the 15th, apart from a one hour break on the 6th when we had our first glimpse of the sun for the month.

From February 11 persistent frost occurred, totalling in excess of 320 hours of sub-zero conditions with the daytime temperature reaching no higher than -3.9°C on the 17th. In addition, three days, the 3rd, 7th and 10th saw freezing fog at 9 a.m. with thick fog at other times on a further six occasions (smokeless zones had not yet arrived). Throughout this spell winds had been gusting regularly to levels between 20 and 30 knots, bringing severe wind-chill, widespread drifting and reduced visibility due to blowing snow.

Fig.3 - Tunnelling through the snow

By the 23rd level snow had reached 23 cm though drifting, which was widespread and severe, resulted in all roads (and railways) which passed through cuttings being totally filled and blocked. In several places drifts were deep enough to cover hedges and reach the window-sills on the *upper* floors of many houses. The only way from the front door to the 'road' in many cases was to dig a tunnel *beneath* the snow, akin to that from an igloo! By this date we had experienced snow or sleet on 15 days and sunshine on just two!

February 24 was the first really sunny day of the month with 7.1 hours, but the clear skies sent the temperature plummeting, resulting in an overnight air frost of -8.9°C while the snow surface temperatures plunged to -20.0°C. Despite this respite, snow or sleet continued to fall, and only four days during the second half of the month escaped solid precipitation. At no time during the month did night time minima rise above zero, and the mean daily temperatures were positive on only three days overall.

By the end of February the countryside was in chaos, as were many towns and cities. Fuel was in very short supply since the railways were strike-ridden and impassable, as were almost all roads (we did not have any motorways then). In truth, everywhere was practically at a standstill. People had to walk to work or school, an easier task in the immediate post-war years as almost everyone lived very near to their place of work; the 'commuter-age' was fortunately still decades in the future. Rationing meant that people were 'adequately' but not well fed, and the biting cold without

	January	February	March	Jan-Mar	
				1947	Mean
Falling snow / sleet (day)	16	19	13	48	14.4
Lying snow (day)	13	28	19	60	9.4
Air-frost (day)	13	27	15	55	30.8
Ground frost (day)	24	28	16	68	51.1
Days with precipitation	22	21	24	67	59.6
Precipitation total (mm)	70.2	55.5	151.7	277.4	196.1
Sunshine total (hour)	46.0	15.2	70.1	131.3	160.3
Sunless days	13	22	12	47	35.1
Warmest day (°C)	12.8	4.4	12.2	12.8	12.0
Coldest day (°C)	-5.6	-3.9	-1.7	-5.6	-0.4
Coldest night (°C)	-10.0	-8.9	-8.3	-10.0	-7.5
Snow-surface minimum (°C)	-13.3	-20.0	-16.1	-20.0	-11.6
Warmest night (°C)	8.9	0.0	8.9	8.9	9.3
Mean maximum (°C)	4.0	-0.7	6.3	3.2	7.0
Mean minimum (°C)	-1.3	-3.8	0.7	-1.5	1.3
Mean daily temperature(°C)	1.3	-2.3	3.5	0.9	4.1

Table 1 - Summary of the salient statistics for the period January to March 1947.

central heating or sufficient fuel meant only one room in the house being heated, with the bedrooms like iceboxes. I remember ink freezing on a table under my bedroom window, and getting into bed was like slipping between a couple of sheets of ice!

And so, to draw the threads for February together, snow lay on 28 days to a maximum 'level' depth in the enclosure of 27 cm and locally drifting to almost 4 metres. Air frost occurred every night bar one (when it struggled up to zero). There was precipitation on 21 days while 22 days were sunless during a month when the total sunshine totalled just a shade over 15 hours. Wind-chill regularly reached -13°C and sometimes -15°C. The nation was 'shell-shocked', but March was to bring even worse privations.

Fig.4 - Heavy drifting on the A456

March 1947

Fig.5 - Snowdrifts blocking the A456

Although February 1947 produced some dramatic and extreme conditions, March was to throw even more severe weather at us, including blizzard conditions, glazed ice, a gale, severe wind-chill and widespread flooding. The month opened in relative calm, March 1 showing little more than scattered snow showers and almost 8 hours of bright sunshine. It did, however remain bitterly cold, with a day maximum of 2.2°C and a night minimum of -6.1°C as winds gusting to 30 knots produced severe wind chill somewhat ameliorating the effects of the bright sunshine! Following two further dry days with quite widespread fog, a brisk northeasterly wind on March 4 heralded the arrival of blizzard conditions that brought level snow to a depth of 27 cm with drifts as deep as 5 metres in places. Roads and railways again succumbed as snow piled in as fast as it was cleared.

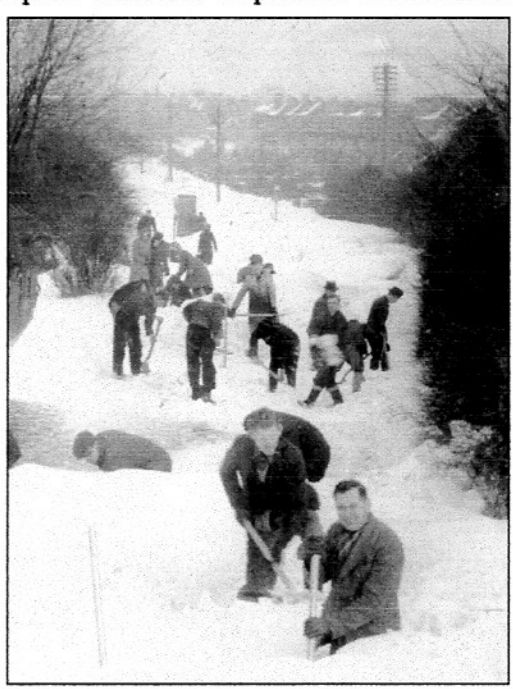

Fig.6 - Digging through snow drifts to keep the A456 Kidderminster to Birmingham road open.

Continuing heavy snow falls the following day increased the 'level' snow depth to 42 cm, a total that continued to increase during moderate to heavy falls from the 6th to the 9th. Most of the country was again at a standstill and wartime 'bulldozers' were brought out in attempts to open roads to isolated towns and villages. It was the second week into March before my own village road was opened from Halesowen, and then only by cutting a single path. On March 12, freezing rain began to fall, coating everything in sheets of ice and making conditions treacherous, putting a 5 to 6 cm layer of ice on top of the snow surface. Additional heavy glazing occurred on the 14th only to have a further layer of snow added after heavy falls on the

Fig.7 - Flooding near Worcester

afternoon and evening of the 15th. Under these conditions the deep layer of snow was so solid that it was possible to walk on its surface, which in many cases left one standing *above* hedgerows, fences and road signposts.

The final air-frost of the month occurred on the 15th and the following day saw a complete change, with the daytime maximum rising to 8.3°C after early morning fog. By late evening a full gale was blowing, gusting to 66 knots and for almost 11 hours, the mean wind speed remained in excess of gale force. The gale was accompanied (fortunately) by rain, not snow, though anxiety now began to mount with the prospect of flooding if the thaw were rapid, in view of the immense volume of snow around.

Rain and fresh to strong winds persisted throughout the following seven days, eating into the lying snow as a change in wind direction to a westerly quarter heralded much higher temperatures. By March 22 these were peaking at 11.1°C, warm days, frost-free nights and ample rain removing almost all of the main volume of lying snow.

The final ten days of March were exceptionally wet with 36.3 mm of rain. This and the water resulting from the melting snow caused widespread

flooding along the river valleys, a fact mentioned regularly during the floods occurring the autumn before last (i.e. 2000). The inhabitants of Bewdley would have been horrified to find that the river Severn floodwater reached the garage forecourt near the railway bridge over the A456 Birmingham-Bewdley road. The resulting flooding along the Severn and most other rivers was so severe that it set records which in many places still stand today.

The 1947 winter was now well and truly over, and March had added to the mass of statistics thrown up by this spell of quite amazing weather, statistics for which appear in Table 1. The rainfall total of 151.7mm is a March record not exceeded to this day, with precipitation on 24 days, 11 of which experienced 5 mm or more of precipitation. Hail occurred on 3 days with fog at 9 a.m. on eight days.

Summary

During the first three months of 1947 snow lay on the ground for 60 days in all, with the deepest 'level' snow amounting to 42 cm on the March 6. Just prior to the final thaw, drifts extended up to, and in cases over 5 metres in road and railway cuttings and on high ground. Over the period the heaviest single fall amounted to 17 cm on March 12 during a final blizzard accompanied by glazed ice. The final two columns of Table 1 highlight the statistics for this 3-month spell, with the 30-year mean (1971-2000) included by way of comparison.

Sub-zero temperatures occurred over 32 days, a total in excess of 768 hours of frost, the longest continuous spell lasting from February 11 to February 23, more than 320 hours. One gale, on March 16, blew with gusts up to 66 knots and gale force gusts were noted on 21 days in all. These figures well illustrate the problems which were encountered, both through the severe wind-chill and by blowing snow re-filling all freshly cleared roads and railways.

The entire severe spell had lasted 57 days, 60 if we include the initial short spell at the start of January. That ends this rather detailed look at the winter of 1947 seen entirely through my own eyes, with comments made where it thought likely to enhance the data being quoted. I do hope that this has proved of some interest, especially to those who were not born at the time, or were too young to 'appreciate' the conditions.

Figs. 1,2,3,6,7 kindly supplied by the Birmingham Evening Dispatch; Figs 4,5, by the author