

FIRST FLOWERING DATES 2012

In 2012 I once again recorded first flowering dates (FFDs) for 339 vascular plant species, part of an ongoing comparative study of FFDs in Somerset today with 'average first flowering times' recorded by Walter Watson in the first half of the 20th century (Watson 1949). Recording methods and sites visited were the same as in previous years (Leach 2011, 2012). A summary is given here of FFDs recorded, along with the main features of the weather in winter (December-February), spring (March-May) and summer (June-August), based on personal observations and regional (S.W. England and S. Wales) data and analyses available on the Met Office website (<http://metoffice.gov.uk/climate/uk/>). As usual, records of snowfall, snow lying and air or ground frosts were from my back garden in Taunton.

The weather

The winter period was relatively mild, with daily mean temperatures 1.2°C and 1.4°C above the regional long term (1981-2010) average in December and January respectively, and just 0.4°C below average in February. This followed a remarkably mild autumn, apparently the second warmest in more than a hundred years.

Early spring, too, was exceptionally mild, with temperatures in March 1.9°C above average –

the warmest (and driest) March since the 1950s, and the third successive month of below-average rainfall.

It all changed in April. Temperatures were 1°C below average, while the second half of the month also heralded an abrupt and much-publicised end to the 'drought'. The monthly rainfall total was 222% of the long term average; indeed, it was the wettest April on record, with widespread severe flooding at the end of the month and during the first two weeks of May.

There was a brief respite in May, which proved to be a more or less 'average' month for rainfall (and temperatures), but the summer period was horribly wet, monthly rainfall totals being 163-240% of the long term average. June temperatures were a mere 0.4°C below average, but these did little to raise dampened spirits, since this was the wettest June since 1860, and the second dullest since records began in 1929. July was not only dull and wet, it was also relatively cold – apart from a brief heat-wave in the fourth week – with daily mean temperatures 1.1°C below average. It was the coolest July since 1990. As described by Mabey (2013), 2012 will, for the most part, be remembered as a year of 'numbing gloom and damp'.

Sleet or snow was observed falling (but not settling) on three days: one in January and two in February. In terms of 'frost-days', there were five

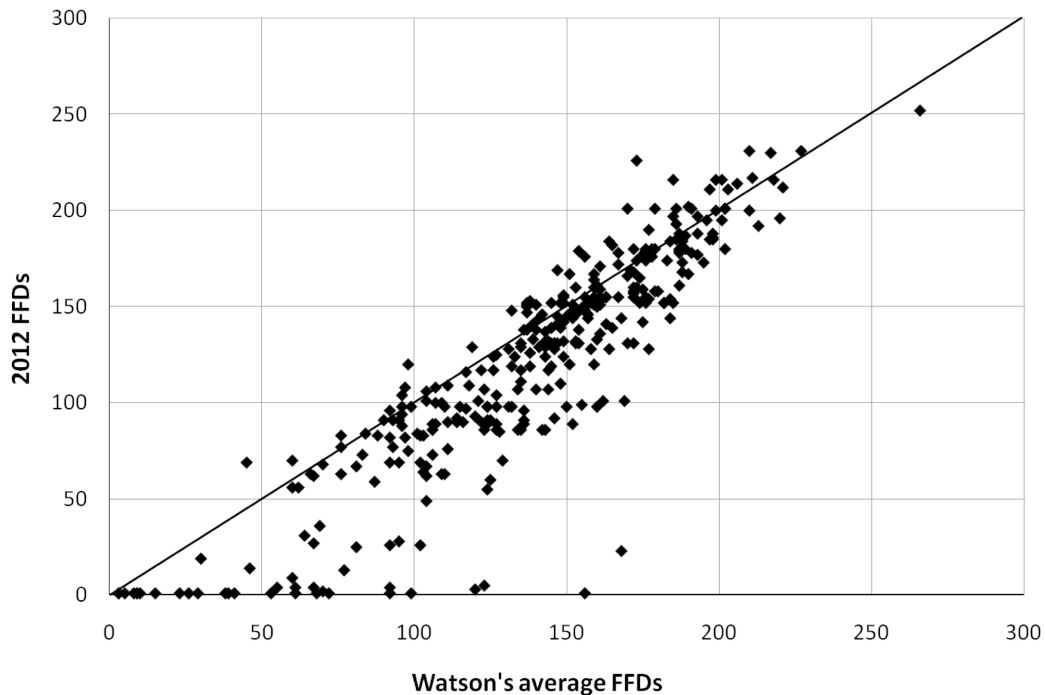


Fig. 1 First flowering dates (FFDs) for 339 species in 2012, plotted against 'average first flowering times' given by Watson. Dates are shown as day numbers (day 1 = 1 January). The diagonal line marks the line along which the data-points would lie if 2012 FFDs were identical to those given by Watson; above the line the 2012 date is later than Watson's date, below the line earlier

in December, 10 in January, 12 in February, four in March, five in April and one in May.

First flowering dates

The FFDs recorded in 2012 are compared with dates given by Watson in Fig. 1, and with both Watson's dates and those recorded by me between 2008 and 2011 in Table 1. The constituent species within the monthly groups in Table 1 are determined by Watson's dates; so, for example, the 'March' group comprises 27 species (of the 339 recorded in this study) for which Watson's FFDs fell in March, ie between days 60 and 91. (The fact that 2012 was a leap year meant that the first day of the 'Watsonian' month of March actually fell, as in 2008, on 29th February, with a knock-on effect in subsequent months.)

The most noteworthy feature of FFDs recorded in 2012 was the exceptionally early dates for species in the January to April monthly groups.

For all these groups the mean FFDs were the earliest since observations began in 2008 (Table 1). Spring-flowering species coming into flower in March, much earlier than usual, included Wild Garlic (*Allium ursinum*) (Fig. 2) on the 3rd, Bluebell



Fig. 2 Ramsons (*Allium ursinum*), Sherford

TABLE 1: DEVIATION (IN DAYS) BETWEEN MONTHLY AVERAGE FIRST FLOWERING DATES IN 2008-2012 AND THOSE CALCULATED FROM THE 'AVERAGE FIRST FLOWERING TIMES' GIVEN BY WATSON

Month	2008	2009	2010	2011	2012	n
Jan	-10.5	+0.1	+7.5	-1.7	-12.5	12
Feb	-17.9	-17.6	+1.7	-18.4	-32.3	7
Mar	-14.8	-8.0	+14.8	-10.1	-27.2	27
Apr	-21.4	-10.8	+3.3	-13.3	-24.5	55
May	-11.4	-16.5	-3.7	-28.1	-18.7	89
Jun	-9.6	-13.5	-7.0	-23.1	-13.5	93
Jul	-6.9	-13.7	-11.2	-20.1	-5.3	49
Aug	-8.0	-10.3	-11.3	-21.9	-6.1	7

(*Hyacinthoides non-scripta*) on the 9th, Lords-and-Ladies (*Arum maculatum*) (Fig. 3) on the 13th and Hawthorn (*Crataegus monogyna*) on the 29th, all these are species that Watson would have expected to start flowering in the second or third weeks of April, and all were significantly earlier in 2012 than in 2011. This early onset of flowering was doubtless a response to the extended period of exceptionally sunny, dry and (most importantly) mild weather in late February and March.



Fig. 3 Lords-and-Ladies (*Arum maculatum*), Corfe

Many species with 'Watsonian' FFDs in May, such as Ribwort Plantain (*Plantago lanceolata*), Common Nettle (*Urtica dioica*) and Meadow Foxtail (*Alopecurus pratensis*), also had notably early FFDs, starting to flower before the weather deteriorated in the second half of April.

The sudden turn in the weather, however, brought spring almost to a standstill. One

consequence of this was that many early-flowering species had an unusually extended flowering period and a delayed peak flowering time. Bluebell, for example, failed to reach peak flowering until about the first week of May, and still had plants flowering in early June – almost three months after the FFD for this species. Hawthorn started to bloom before the end of March, but it took until the second or third week of May for this species to reach peak flowering. (Blackthorn (*Prunus spinosa*), on the other hand, had a relatively brief flowering period, starting to blossom in the final week of February and more or less 'over' by the first week of April.)

With spring temporarily 'on hold', and the summer wet and cool, it came as no surprise that many summer-flowering species had delayed FFDs, those with July and August 'Watsonian' FFDs starting to flower later in 2012, on average, than in any of the preceding four years (Table 1). Dyer's Greenweed (*Genista tinctoria*), Tufted Vetch (*Vicia cracca*), Greater Plantain (*Plantago major*) and Betony (*Betonica officinalis*), for example, all had FFDs at least one week later than the latest recorded by me between 2008 and 2011.

The contrast between 2011 and 2012 is highlighted in Fig. 4, which shows for each year the number of species that had come into flower by any particular date. It demonstrates that 2012 was, in essence, a year of two halves, being 'ahead' between January and the middle of April, and then dropping 'behind' thereafter. Even so, the delayed FFDs of many summer-flowering species were still earlier than the average FFDs for those species reported by Watson (Fig. 1), as were the average FFDs of the June to August

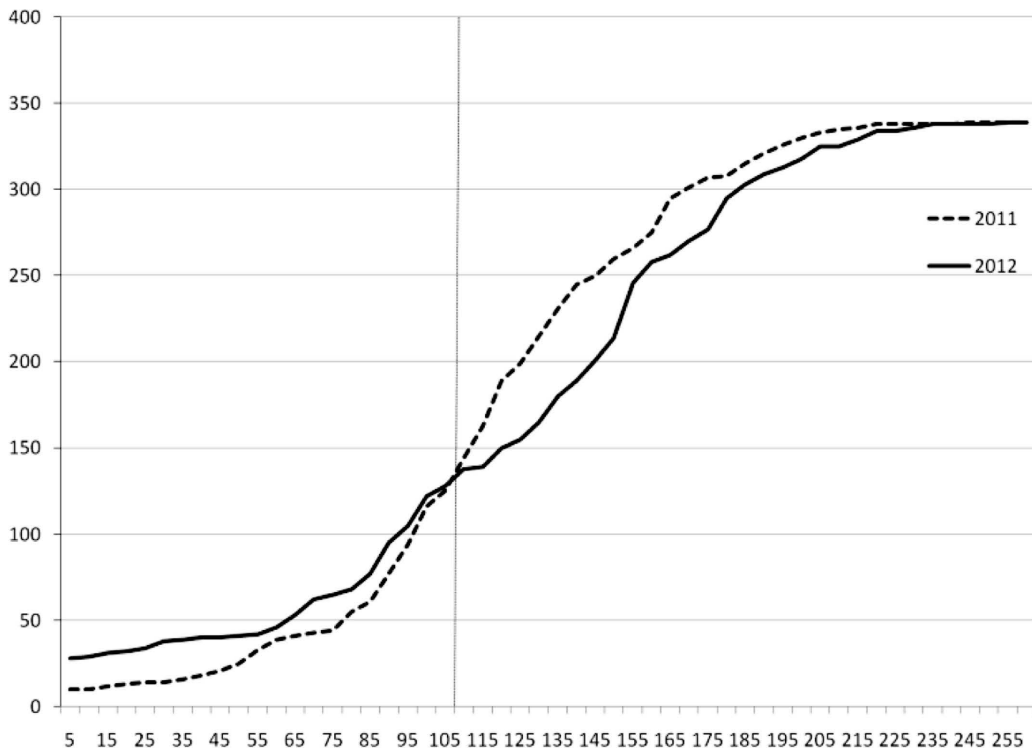


Fig. 4 Cumulative plot showing, for 2011 and 2012, the number of species (of the 339 recorded) that had come into flower by any particular day. It can be seen that, in comparison with 2011, 2012 was a year of two halves: the vertical line (day 105, 13th April) effectively marks the point at which the relatively 'advanced' spring FFDs ended and the relatively 'delayed' late spring and summer FFDs began

monthly groups (Table 1). So clearly, whatever we might have thought about the miserably dull, drenching and relatively cool summer of 2012, it still managed to produce, on average, slightly earlier FFDs than Watson would have expected in a typical summer in the first half of the last century.

Taking all species combined, FFDs in 2012 were an average of 16.8 days earlier than those recorded by Watson. This compares with 12.2 days earlier in 2008, 12.9 days earlier in 2009, 2.7 days earlier in 2010, and 20.3 days earlier in 2011.

References

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