



Spring analysis 2020



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Summary

Your records show that 2020 was an early year in terms of spring's seasonal changes. Similarly to during 2019, wildlife reacted to the warm weather in the first half of the year, and the vast majority of the Nature's Calendar spring events were early compared to 2001*. Some occurred earlier than we've ever recorded before in this annual Nature's Calendar analysis of spring phenology.

*2001 is used as a benchmark year because the mean monthly temperatures in spring were similar to the 1961-90 averages.



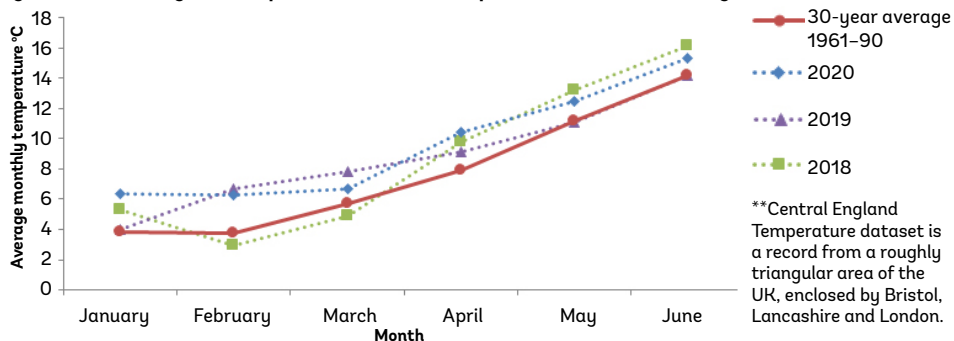
WOODLAND
TRUST

Weather compared to the UK 30-year average (1961-90)

Temperature

- Average monthly temperatures for all months from January to June were above the Central England Temperature** 30-year averages (1961-90).
- January, February and April were particularly warm compared to the 30-year average (2.5-2.6°C warmer).
- It was the 5th warmest April in this temperature series which dates back to 1659.

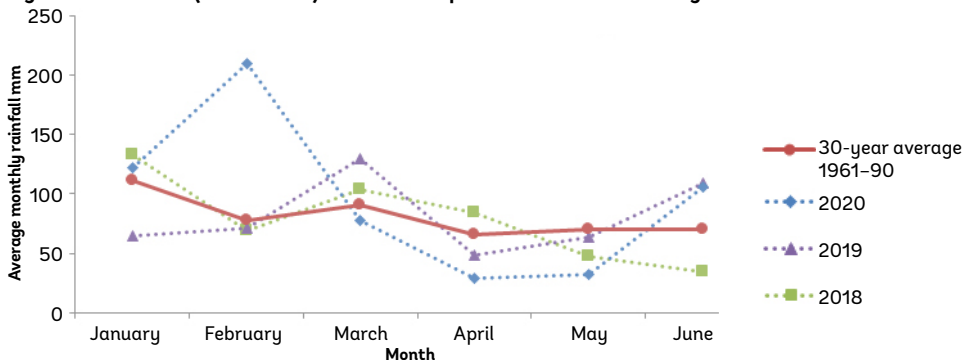
Figure 1. Central England Temperature 2018-20 compared with 1961-90 average



Rainfall

- It was the wettest ever February in a rainfall series dating back to 1862 (HadUK-Grid).
- Storms Ciara, Dennis and Jorge all contributed to rainfall, with an exceptionally wet day on 15 February.
- In contrast, March, April and May were much dryer with monthly levels below the 30-year averages. It was the 9th driest April and 9th driest May in this series.

Figure 2. UK rainfall (HadUK-Grid) 2018-20 compared with 1961-90 average



Sunshine

- It was the 9th sunniest March and the sunniest April and May in a series going back to 1919 (HadUK-Grid).

What your spring 2020 records show

Here's our brief analysis and discussion of your spring 2020 records, highlighting

Nature's Calendar species phenology.

Figure 3. Average recording dates during 2018, 2019 and 2020 compared to the 2001 benchmark year.

Negative numbers represent days earlier and positive numbers represent days later than the benchmark year			
Event	2018	2019	2020
Budburst	-2.9	-15.9	-17.7
First Leaf	-4.9	-16.5	-19.1
First Flowering	-8.5	-17.9	-20.1
Amphibians first recorded	-2.3	-13.3	-9.0
Insects first recorded	1.4	-23.2	-16.4
Birds first recorded	-1.5	-5.2	-5.1
Lawn first cut	6.0	-21.0	-18.0

Budburst

- Similarly to 2019 all 11 tree species had an early average budburst date. Overall, budburst was 17.7 days earlier than the benchmark year, the earliest overall average since this analysis began.
- Elder budburst occurs early in the year and is the first of the Nature's Calendar tree or shrub species to open its buds. This spring the UK average budburst date for elder was 33 days early. This is likely due to the warm January temperatures (shown above) but also the mild December in 2019: it was a mild month overall and had fewer frosts than average.
- Alder, ash, silver birch, horse chestnut, hawthorn, larch, oak (pedunculate) and rowan all had an average budburst date two weeks or more earlier than in the benchmark year.
- The pedunculate oak budburst average (06/04/20) was only three days earlier than that for ash (09/04/20). So oak was out before ash again this year, but there wasn't much of a difference. Usually we find that oak and ash budburst both respond to spring temperatures (budburst happens earlier in warmer springs), but that of the two,

oak budburst is more responsive to temperature. Therefore there is normally a bigger difference in date of oak and ash budburst in years with warmer springs. This year doesn't seem to follow that pattern, although we appreciate that ash is becoming increasingly difficult to record due to the effects of ash dieback.

First leaf

- The early budburst pattern was followed by early first leaf for all 11 tree species. The combined average first leaf date was over 19 days earlier than in the benchmark year, again the earliest overall average since this analysis began.
- All 11 species had first leaf averages two weeks or more earlier than in the benchmark year. Elder, hawthorn and oak (pedunculate) were over three weeks earlier.

First flowering

- The average date of first flowering of snowdrop was 19/01/20 this year followed by lesser celandine 23/02/20.

Amphibians

- Depending where you live, adult newts and frogspawn can usually be first seen from early February. Being ectotherms,

newts and frogs largely rely on external heat sources. Both reacted to the warm spring weather this year: frogspawn (12 days early), tadpoles (10 days early) and first-seen newts (26 days early).

- Although February was mild, it was also an exceptionally wet month with storms and flooding. Hopefully not too many frogs laid their spawn in unsuitable watercourses such as flooded tyre tracks, puddles and fields which dried out in the dry March which followed.

Insects

- All insect species except red-tailed bumblebee were early compared to the benchmark year.
- The UK average first-seen date for all insects was 16.4 days early. The range was between five days late (queen red-tailed bumblebee) and 27 days early (orange tip butterfly).
- The earliest butterfly species, compared to the benchmark year, were holly blue (26 days), orange tip (27 days) and small white (22 days). These species overwinter as pupae and were most likely seen earlier this year due to the warm April temperatures, initiating them to complete the next stage of their life cycle of turning into adult butterflies.

- Butterflies that overwinter as adults, such as brimstone, can emerge very early in the year if the weather allows. However they were not as early in 2020 (13 days) as in 2019 (34 days) when we had an unusually warm and dry February.

Birds

- The UK average first-seen date for migratory birds in 2020 was 5.1 days early relative to the 2001 benchmark.
- The range was from chiff chaff (13 days early) to wheatear (1 day late). However records of wheatear, spotted flycatcher, nightingale and turtle dove were all exceptionally low this year.
- The average first nest building of rooks, blue tits, great tits and blackbirds was on average 9.7 days early compared to the benchmark year. Birds were first spotted feeding young earlier too: blue tits (7 days), great tits (10 days) and blackbirds (5 days). Blackbirds can have two broods in a year, so an early spring may help them fit in the second round!

Lawn first cut

- Much like last year the mild temperatures early on meant grass began growing and as a result the average date of lawn first cut was 13 March 2020 (18 days early).

Thank you for your records

Thank you so much for your continued support, we really appreciate all the time and effort you put into recording.

Although we've been unable to celebrate our 20th anniversary as planned we do now have 20 years of spring and autumn records stored safely in our database. We're very excited to use this unique and important phenology dataset – the largest in the UK – to do our own research. We are currently working on an analysis of the 20 years of records for each event and calculating a UK (as well as regional) average for each. This will give us a great base for comparing the timing of future events, as well as looking back at different climatic periods for comparisons.



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