NATURE'S CALENDAR

Autumn analysis 2024

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WOODLAND
TRUST

Summary

Autumn 2024 was warm, particularly December. Fruiting and leaf tinting were variable but 'first leaf fall' was consistently early.

Temperature

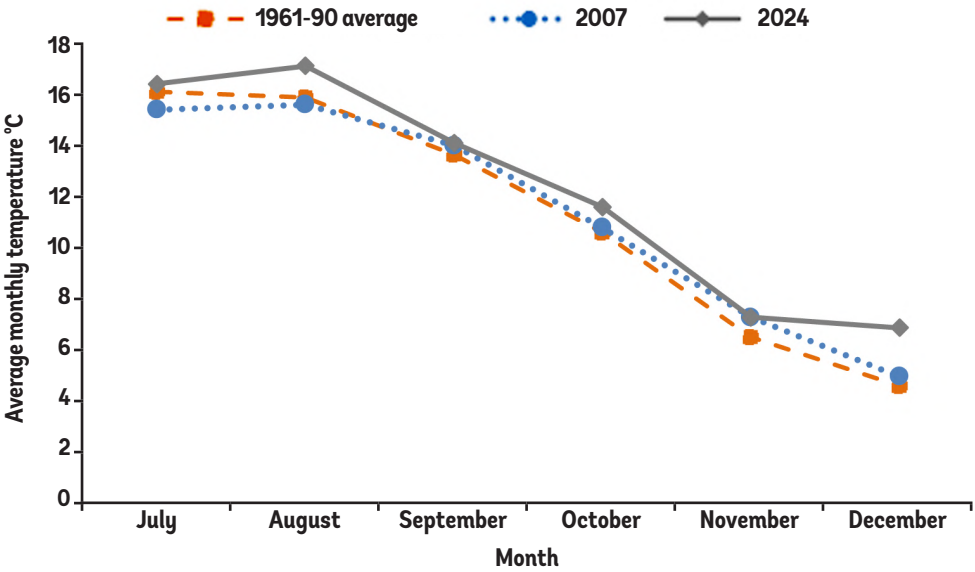

Figure 1: Average monthly temperatures 2024 (Central England Temperature*[1]) compared with 30-year average (1961-90) and 2007 benchmark** year.

- July, September and November 2024 were similar in temperature to the 30-year average (1961-1990), but all months of the season were warmer than the 30-year average by some degree.
- The greatest difference in temperature was in December, which was a whole 2.3°C warmer in 2024 that the 30-year average. August had the second greatest difference, at 1.2°C warmer than the 30-year average.
- It was the 21st warmest December in the 366-year Central England Temperature record, with an average of 6.8°C – not quite as warm as the previous December in 2023, which was 7.1°C.

* The Central England Temperature (CET) dataset is a record from a roughly triangular area of the UK, enclosed by Bristol, Lancashire and London.

** 2007 is used as a benchmark year because the mean monthly temperatures in autumn were similar to the 30-year average (1961-90) temperatures.

Rainfall

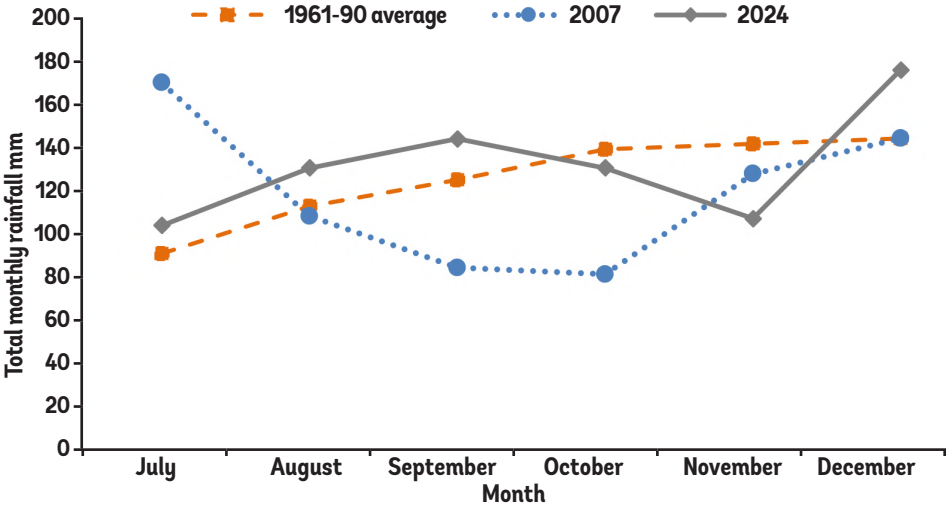

Figure 2: Monthly rainfall totals 2024 (HadUK-Grid[2]) compared with 30-year average (1961-90) and 2007 benchmark** year.

- Monthly rainfall totals in July, August, September and December were 10-25 mm greater than the 30-year average.
- October was slightly below the 30-year average for total rainfall, while November was the driest month, at 27.3mm less rainfall than the 30-year average.
- The first half of November was dull, dry and mild with very low sunshine levels due to a weather pattern known as anti-cyclonic gloom[3].
- November had lower than average rainfall due to dry weather in the early part of the month, however the second half of the month saw increased rainfall. Storm Bert and Storm Conall brought localised heavy rainfall in some areas.

Nature's Calendar records

There are 85 different seasonal events that can be recorded for the Nature's Calendar project in autumn. During autumn 2024, our volunteers recorded 7,197 observations. The most popular events recorded were 'bramble first ripe fruit', 'lawn last cut' and 'rowan first ripe fruit'.

For each species and event, all the records are combined and a UK average date is calculated. These average dates are compared to the average dates in the benchmark year of 2007.

Below, we take a look at some of the most fascinating findings from this season.

Autumn fruit

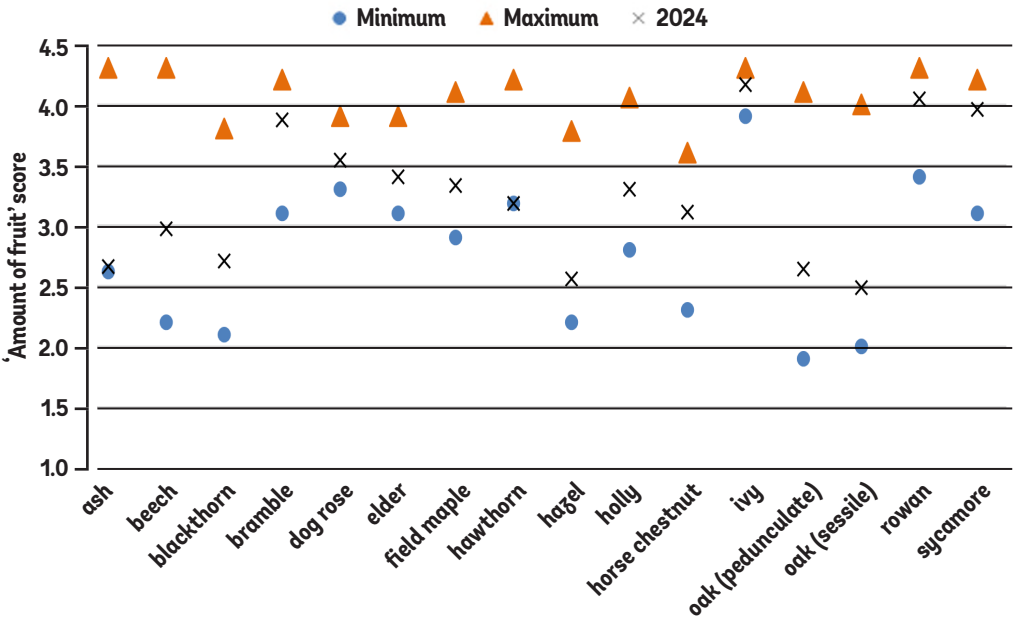

Figure 3: Minimum and maximum UK average 'amount of fruit' scores from the dataset 2001-2024 compared to the 2024 score.

- The Nature's Calendar 'amount of fruit' scores are really important because they provide an indicator of winter food availability for wildlife, as well as an indicator of the seed source available for natural regeneration of trees and shrubs.
- 'Amount of fruit' is a subjective assessment of fruit crop, recorded since 2001, where a fruit score of 1 represents no fruit and a fruit score of 5 represents an exceptional crop. It's often linked to climate variables in preceding seasons.
- Fruit production in 2024 varied greatly between species, as shown in Figure 3, which compares the minimum and maximum scores for each species since 2001 with the score from 2024.
- Autumn 2024 saw the lowest crop of haws on record. What a contrast after the record-breaking bumper crop of haws in autumn 2023! The average date of 'hawthorn first flowering' in 2024 was 17 April. Above average rainfall in March-May was not ideal for insect pollinators during the flowering period. Rowan, however, which is also insect pollinated and flowers at a similar time in spring, was not so badly affected, with a healthy fruit score of 4.
- Ash also had a low fruit score of 2.7 – only 0.1 off its minimum score of 2.6 in 2019.
- Bramble, which starts to flower in summer with ripe fruit soon after, and continues to flower while fruiting, had a healthy crop of 3.9, not far off the maximum score of 4.2 in 2014.

Migrant birds

Winter arrivals

- Fieldfare and redwing 'first recorded' dates were on average 12 and 17 days later, respectively, than during the benchmark year. Their average 'first recorded' dates were 5 and 12 November – the second latest in the Nature's Calendar record. They were not quite as late as in 2023, where the average 'first recorded' dates for fieldfare and redwing were the latest they have been since the Nature's Calendar project began.

Summer departures

- House martins and swifts departed four and six days earlier, respectively, than during the benchmark year. Swallows departed on the same date as the benchmark year. As can be expected, swifts departed first (the average 'last recorded' date was 7 August) and house martins and swallows departed more than a month later (16 and 19 September).

Fieldfare DAVID WHITAKER/ALAMY STOCK PHOTO

Autumn leaves

- The average date of leaves first falling ranged from 2-10 days earlier than the benchmark year. Elder had the earliest average first leaf fall out of all tree species, at 10 days earlier, only one day later than its earliest ever average first leaf fall (11 days) in 2017 and 2018.
- Thinking back to spring 2024, silver birch broke new records for the earliest average first leaf date (5 April) for that species, 17 days earlier than the benchmark year. In the autumn that followed, the first leaf fell on average seven days before the benchmark year (on 8 October), making this the joint earliest first leaf fall date, matched only in 2017.
- In spring 2024, horse chestnut's first leaf date was 30 March, 16 days earlier than the benchmark, and similarly, in autumn 2024, the first leaf fall date was earlier than the benchmark year by 9 days (on 3 October). This is the third earliest date for horse chestnut first leaf fall in the Nature's Calendar dataset, beaten only by 2017, 2018 and 2022.

- The budburst and first leafing dates for all tree species in spring 2024 were 11-19 days earlier than the benchmark year. In autumn 2024, all tree species had first leaf fall dates that were 2-10 days earlier than the benchmark.
- There is some evidence that the leaves of trees have a 'shelf life', with early springs leading to, all other things being equal, early autumns[4]. However, when this was last investigated using the Nature's Calendar data in 2021, there were not enough years of data to conclude whether the influence of spring temperatures on autumn phenology is sufficient to advance autumn phenology.
- The average date of 'bare tree' was variable. Field maple was two days later than the benchmark year but horse chestnut was seven days earlier. Six out of 12 tree species had earlier average 'bare tree' dates than the benchmark year. By contrast, in 2023 all tree species had an average 'bare tree' date that was later than the benchmark year.
- The average date of 'first autumn tinting' was also variable. It ranged from eight days earlier than the 2007 benchmark (elder, 12 September), to 10 days later than the 2007 benchmark (pedunculate oak, 5 October).
- Six out of 12 tree species (ash, silver birch, elder, hazel, horse chestnut and sycamore) had a 'first autumn tinting' date that was earlier than the benchmark year. Four species (beech, field maple, pedunculate oak and sessile oak) were later than the benchmark year, and two species (hawthorn and rowan) were equal to the benchmark year.

Elder first fall BEN LEE/WTML

Lawn last cut

- The average date of 'lawn last cut' was 29 October, four days later than in 2023 and one day earlier than the benchmark year.
- The mild temperatures may have prolonged the grass growing season (which usually results in a later date of 'lawn last cut'), and 2024 was drier than 2023 which may have allowed lawn cutting later into the year.

Ivy first flowering

- Ivy first flowering' was two days earlier than the benchmark year. The average first flowering date of 15 September was the earliest average flowering date since Nature's Calendar began, perhaps because of the warm start to the autumn season.

Project news

A conversation on wellbeing, art and wildlife recording

In May 2025 we hosted a webinar in collaboration with the Nature Over Natter project – a project led by a member of the Woodland Trust's youth council. In the recording of this webinar, accessible using the link below, you can hear from three young, UK-based artists as they share their experiences of spending time in nature observing the changing seasons, and how this has impacted on their wellbeing. They also share their artworks, which were informed and inspired by these experiences in nature.

Catch up on the recording at naturescalendar.woodlandtrust.org.uk/blog/

Volunteer spotlight

Nature's Calendar is a citizen science project. That means the data is collected by people of all ages, backgrounds and abilities, and not necessarily by people who are scientists by profession (although scientists can of course take part too!). Anyone can volunteer to become a citizen scientist, and every single Nature's Calendar volunteer adds vital information to the database.

The dedication of some volunteers has been especially important, as they have been recording the changing seasons with Nature's Calendar for 20 years or more, some even since the very beginning in the year 2000!

Recently, we've shone a spotlight on a few of our long-term volunteers: Anna, Roger and Janet. They kindly offered to be interviewed about their experience recording nature for the Nature's Calendar project, to form a series of blogs on the Nature's Calendar website to inspire new recorders.

Find out what they had to say at naturescalendar.woodlandtrust.org.uk/blog/2025/volunteer-spotlight-janet/

Thank you

Thank you so much for your continued support. We hugely appreciate all the time and effort you put into recording.

We're always on the lookout for more volunteers to take part in the project. Anyone can sign up and find out more at: **naturescalendar.woodlandtrust.org.uk**

References

1 Parker, D.E., Legg, T.P. and Folland, C.K. (1992) A new daily Central England Temperature Series, 1772-1991. International Journal of Climatology, 12, 317-342.

2 Hollis, D., McCarthy, M., Kendon, M., Legg, T. and Simpson, I. (2018) HadUK-Grid gridded and regional average climate observations for the UK. Centre for Environmental Data Analysis.

3 Met Office (2025). Weather and Climate summaries.

4 Zani, D., Crowther, T.W., Mo, L., Renner, S.S., Zohner, C.M. (2020). Increased growing-season productivity drives earlier autumn leaf senescence in temperate trees. Science, 370, 1066–1071.

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Anyone can sign up and find out more at **naturescalendar.woodlandtrust.org.uk.**

Nature's Calendar is supported by players of People's Postcode Lottery

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