Nature's Calendar is a citizen science project, enabling thousands of people to record the signs of seasonal change where they live.

The year is split into two recording seasons, spring is January to June and autumn is July to December.

**Current recording process**

Recorders can add sightings using the website or paper forms. The paper recording scheme was closed to new registrations in 2008, however those already using the system can continue to do so.

Recorders are asked to record within a six mile radius of their given location, which is provided by postcode. More information about recording with Nature’s Calendar can be found in the [recording guide.](http://www.naturescalendar.org.uk/NR/rdonlyres/453500FD-8217-47FE-8180-1F96CDFCC9B1/0/Phenologyguide.pdf)

**Historical data**

The historical data within the Nature’s Calendar dataset has been collected from many different sources. Some has been collected by individual recorders in specific locations; this includes some of the earliest data we hold such as that collected by Robert Marsham.

Formal recording schemes include the phenology recording by the Royal Meteorological Society. This scheme ran from 1875 – 1947 and had recorders at locations throughout the UK.

**Development and changes to the Nature’s Calendar dataset since 1998**

**1998**

In 1998, Tim Sparks, at the Centre for Ecology & Hydrology (CEH), re-established a phenology network to collate all historic records of phenological events in the UK and manage a paper-based recording scheme.

**1999**

The re-established phenology network recorded their first observations for spring 1999.

**2000**

2000 was the final recording year for the re-established phenology network at CEH.

In autumn 2000 the Woodland Trust took over the recording network which now became known as the UK Phenology Network (UKPN) and promoted it more widely.

Expected date ranges were set for each event to warn online recorders if they tried to enter unusual or 'special observations'.

**2000-2005**

Special observations for spring 2000 to autumn 2005 were examined seasonally to delete all those that were felt to be potentially incorrect; the remainder were accepted. For example, outlying records at the beginning and end of the season, which were not compatible with their geographic location (e.g., first swallow record for the UK in Glasgow) were deleted.

**2001**

This year was adopted as a spring benchmark as average monthly Central England Temperatures were very close to the 30-year average.

In February recording snowdrops was promoted on the BBC’s Countryfile programme.

**2004**

In spring 2004 there was a collaboration with the British Science Association for British Science week called ‘Spring into Science’.

The events promoted were:

|  |  |
| --- | --- |
| * Silver birch bud burst * Horse chestnut bud burst * First lawn cut * Newt first seen * Tadpole first seen * Frogspawn first seen * Ladybird first seen | * Bumblebee (any) first seen * Hazel first flower * Blackthorn first flower * Snowdrop first flower * Song thrust first heard * Blackbird first seen nesting * Rook first seen nesting |

**2005**

After spring 2005 the recording of primrose first flowering was discontinued due to concerns that people were recording cultivars in gardens that flower all winter.

Recording of bumblebee first seen was also discontinued after spring 2005 due to concerns that different species have different phenological responses. Red tailed bumblebee (queen) was chosen to be recorded from 2006 onwards following advice from Bumblebee Conservation that this species was the easiest to identify.

**2005-2007**

Between 2005-2007 the UKPN was promoted on the BBC’s Springwatch and Autumnwatch programmes. A subset of events was promoted and viewers were encouraged to submit records for these. These were:

|  |  |
| --- | --- |
| Spring  • Frogspawn first seen  • Swift first seen  • Hawthorn first seen flowering  • Peacock butterfly first seen  • 7-spot ladybird first seen  • Red-tailed bumblebee first seen. | Autumn  • Bramble first ripe fruit  • Horse chestnut first ripe fruit  • Pedunculate oak first tint  • Ivy first flowering  • Swift last recorded  •Hawthorn first ripe fruit |

**2007**

In autumn 2007 the scheme discontinued recording the third date seen for all relevant events as it was not popular with recorders. At the national level there are very tight correlations with mean first dates, which suggests the latter are not distorted by individual rogue records.

Autumn 2007 was adopted as an autumn benchmark as average monthly Central England Temperatures were very close to the 30-year average.

**2008**

The paper recording scheme was closed to new recorders in 2008. For the records from spring 2008 all observations later than one month beyond mean dates were deleted. From this point on all records were retained unless clearly incorrect.

**2009**

In 2009 it was agreed that all data was worth having, as it could be used for new purposes ‘e.g. the social science of mass observation’. Between 2009 and 2013 the date ranges were altered, so that observations within a six month date range of the current recording year were accepted. In practice, website functionality would not allow date ranges to be set that pre-dated the end of the preceding recording season. The autumn date range could not be earlier than 1st July and the spring date range could not be earlier than 1st January. For spring this range was therefore: 1 January - 30 June, and for autumn: 1 July - 31 December. Some species have date ranges which are slightly different to this, these date ranges can be seen in Appendix 1.

Since 2009 online recorders are prompted to submit a photo to justify a special observation. The records that fall outside an expected date range are held in a 'special observations' area pending further consideration. Paper-based recorders are not asked to justify ‘special observations’ and are not contacted.

**2010**

Between 2008 and 2010 wording on the recording form was revised to state that recorders could record within 6 miles of a postcode (within a height of 100m).

**2015**

Recording with Nature’s Calendar was promoted through the British Science Association as part of British Science week to find as answer to the question ‘How fast does spring move?’ Several species and events were promoted;

* Frogspawn
* 7-spot ladybird
* Pedunculate oak first leaf
* Hawthorn first leaf
* Hawthorn first flowering
* Orange tip butterfly

The question of ‘How fast does spring move?’ was repeated with BBC Springwatch as part of a campaign called the Big Spring Watch. The species and events below were promoted on the Easterwatch special which was broadcast on Friday 3rd April. People were then encouraged to record through promotion on social media and television.

* Pedunculate oak first leaf
* Hawthorn first flowering
* Orange tip
* 7-spot ladybird
* Swallow

Results were announced during the main Springwatch programmes which were aired in late May 2015

**Appendix 1 Date ranges currently in use**

For events recorded in spring the date ranges are 1st January – 30th June. Events recorded in autumn have the following date ranges; 1st July – 31st December.

Some species have date ranges which are slightly different to this; these are listed in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Species name** | **Event name** | **Date start** | **Date end** |
| dog rose | first flowering | 01-Apr | 30-Jun |
| lilac (purple) | first flowering | 01-Feb | 30-Jun |
| oak (sessile) | first ripe fruit | 02-Jul | 01-Dec |
| horse chestnut | first leaf | 01-Jan | 01-Jun |
| horse chestnut | amount of fruit | 01-Jul | 30-Dec |
| beech | amount of fruit | 01-Jul | 30-Dec |
| lawn | first cut | 01-Jan | 01-Jun |
| oak (sessile) | first ripe fruit | 02-Jul | 01-Dec |

**2017**

A new recording website was launched on 26th July.

Photographic guidance is provided on the new website on how to record each species and event including images of ‘too early’, ‘just right’, ‘too late’ and ‘not to be confused with’.

Recording location size changed from a 6 mile radius to plotting exact (20 m radius) locations on a map.

Photos and comments can optionally be added to each record.

An additional question is asked for each record: ‘Let us know the last time you visited this location before making your observation’ with two answer options: ‘Within seven days prior to the observation date’ and ‘More than seven days prior to the observation date’.

Expected date ranges were set for each species and event. These were calculated using the Nature’s Calendar data from the previous 10 years. 90% of the data from the previous 10 years fell within these expected date ranges.

If a date for a record entered on the website falls outside of the expected date ranges, a comment must be added to the record.