The UK Phenology Network is a partnership between the Woodland Trust and the Centre for Ecology and Hydrology.

The UK’s leading woodland conservation charity and one of the government’s Natural Environment Research Council's research centres (specialising in land and freshwater environmental sciences).
Keeping woodland alive.
Our four main objectives:

Wildlife
Restoring and improving the biodiversity of woods

Creation
Increasing new native woodland

Conservation
No further loss of ancient woodland

People
Increasing awareness and enjoyment of woodland
Climate change - the single biggest threat to ancient woodland
Climate change 'ruining' Everest

By Richard Black

Aid agencies' warning on climate

By Alex Kirby

Climate change threat to World Heritage Sites

By Richard Black

Climate fear as carbon levels soar

Scientists bewildered by sharp rise of CO2 in atmosphere for record-breaking period.

US must act over climate says Queen

Mark Townsend and Gaby Hinsliff
Sunday October 31, 2004

The Queen has made a rare intervention in world politics to warn Tony Blair of her grave concerns over the White House's stance on global warming.

More frequent and more economically costly storms, floods, droughts and other extreme weather, wetter conditions in northern Europe but drier weather in the south that could threaten agriculture in some areas. More frequent and more intense heatwaves, posing a lethal threat to the elderly and frail. Melting glaciers, with three-quarters of those in the Himalaya region expected to disappear in 2030.
Variations of the Earth's surface temperature for...

Departures in temperature in °C (from the 1961-1990 average)

- the past 140 years (global)
- the past 1000 years (Northern Hemisphere)

Direct temperatures
Proxy data
Our audience today
Various sources of phenological data
The people

- Around 21,000 registered recorders
- 50-60% online
- The largest phenological recording network in the world (but we are watching the US...)

(each dark green square = one recorder in a 10km square)
Recorder profile

Anyone can take part – the first blackberries of 2003 were spotted on the way to a supermarket in central London

- The key to engaging people not previously involved with the Woodland Trust and CEH
- Over 60% of recorders are new faces
- Remarkably socially inclusive
- Gateway to new partnerships
Why is phenology so important?

• Probably the most responsive aspect of nature to warming
• Has developed in a way which makes it easy for everyone to contribute to climate change science.

‘Dear All
I'm emailing to say that I think your web site is great and full of fascinating information.
As a keen bird watcher and qualified horticulturist who has had her activities curtailed by chronic illness, I am particularly pleased to find that my observations from my window can be put to good use!’
<table>
<thead>
<tr>
<th>Fieldfare</th>
<th>Ash</th>
<th>Hawthorn</th>
<th>Field maple</th>
<th>Sycamore</th>
<th>Ivy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redwing</td>
<td>Beech</td>
<td>Hazel</td>
<td>Pedunculate oak</td>
<td>Blackberry</td>
<td>Dog rose</td>
</tr>
<tr>
<td>Swift</td>
<td>Silver birch</td>
<td>Horse chestnut</td>
<td>Sessile oak</td>
<td>Blackthorn</td>
<td>Fly agaric</td>
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<tr>
<td>Swallow</td>
<td>Elder</td>
<td>Common lime</td>
<td>Rowan</td>
<td>Holly</td>
<td></td>
</tr>
</tbody>
</table>
Snowdrop flowering

- The Marsham record
- Mary Manning’s observations

Year range: 1750 to 2000

Dates: Dec 11, Dec 31, Jan 20, Feb 9, Mar 1
Oak leafing, Surrey, 1950-2003
141 years of harvest date records, Sussex, UK
Shed door daffodil phenology

First flowering against Jan/Feb mean temperature
No 10 and Balmoral – it’s everywhere!

Tony Blair said (Sept 14th 2004)

‘Let me summarise the evidence:……

Extreme events are becoming more frequent. Glaciers are melting. Sea ice and snow cover is declining. Animals and plants are responding to an earlier spring. Sea levels are rising and are forecast to rise another 88cm by 2100 threatening 100m people globally who currently live below this level.'

Even the Queen is seeing signs of change This from a report in the Guardian

'She is understood to have asked Downing Street to lobby the US after observing the alarming impact of Britain's changing weather on her estates at Balmoral in Scotland and Sandringham in Norfolk. The revelation gives an unusual glimpse into the mind of the monarch, who normally strives to stay above politics.'
Online Forum – it’s good to talk!

The UK Phenology Network

Messages

Fruit and nut

I was surprised a week or so back to see patches of bright red on the edge of our woodland rowan fruiting on trees that I’ve never seen in flower before. These are very pretty and contrast with the street/garden rowans which have less than average fruit. This a week earlier than last year. No sign of blackberries yet but haws reddening (already ripe in the south, I know) and hips fattening (not just mine). Lots of fruit on some hollies although I may never see these ripe - like so many fruit they are eaten by blackbirds or squirrels before I register them!

In contrast, there are no signs of acorns or beech mast - as last year.

Posted by: Paul M 28/07/04 21:08

Yes, as I wrote in another folder the blackberries ripe at the tips and it looks like a bumper crop in the Berkeley vale. As I ride round I can see the red of the hawthorn starting to show. In spite of the heat today it sends a quick chill of winter to come!

There seem to be a lot of hazel nuts about too. I don’t know how dormice etc manage through the autumn as most of the nuts seem to be taken by squirrels before they are ripe and they are all over the ground.

Posted by: Anne R 29/07/04 11:01

We have bumper crops of fruit and nuts in this area too this year, have seen rowan berries, guelder rose, hazel nuts, and the beech trees are especially laden down with nuts, but they cropped poorly last year.

Posted by: Margaret 30/07/04 23:25

Having done another whirlwind tour of south-eastern/middle England, I am particularly impressed by the numbers of seeds on all Acer spp. - flowering, fruiting and extra! Also the large numbers of fruit on guelder rose - my favourite and wood enough...
• Recorders log in using a unique password, to record their observations directly on the database.
Designer goods

- Offline and online guides
- Recording forms
- Newsletter
Downloadable calendar
downloaded by 1000+ people each month

www.phenology.org.uk

November 2004
**Blackberry, Fruit ripe**
The map shows the current observations. Use the slider to change the observation range. Move the mouse over a point to view more information.

**Observations Details**
- Observations Shown: 203
Data validation and accuracy

- Volunteer monitoring is the norm in many biological situations, e.g. plants, butterflies, birds
- Stress to recorders to record only if they are sure of identification and timing "If in doubt, leave it out"
- Data entry contains checks based on past data which flag up especially early or late dates.
- Results are further scrutinised for ‘unusual’ dates before use
- Quantity of data drowns out the noise
- Data are analysed by Dr Tim Sparks, our statistician at CEH

Centre for Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL
Similarity of seven unconnected Daffodil datasets

Daffodil flowering dates

year

day of year

110
100
90
80
70
60
50
40
30
1980 1990 2000

WOODLAND TRUST
Orange Tip on the run

Orange tip butterfly

- Date of first appearance
- Year

Orange tip butterfly

- Date of first appearance
- Year
Spring 2001 is our phenological benchmark

Graph showing 2001-2004 spring temperatures (CET)

- 30-year average
- 2001
- 2002
- 2003
- 2004
Divergence of timing compared to benchmark spring (2001) in 2002-04

Average no. of days earlier than 2001

- Migrant birds
- Resident birds
- Insects
- Amphibians
- Flowering
- Budburst
- First leaf
- Lawn cutting

Taxa/event
Investigation priorities

• Problems with life cycles
• Changes in competitive ability
  • Loss of synchrony
• Projecting future phenology
5 years of mean spawn and tadpole first-seen day number relative to Jan-April temperature (CET)

- Spawn day
- Tad day
‘Climate change in your garden’ online learning funded by Copus
Working with expert partners

• British Trust for Ornithology and the decline of the cuckoo

• National Pollen Research Unit, hay fever and the longer growing season
BBC Spring and Autumnwatch

157,000 observations in spring 05 via website, call centre and postcards
Communicating with 21,000 new recorders

Dear Springwatch recorders
The BBC and the Woodland Trust were absolutely bowled over by the response to Springwatch and hopefully you will have seen the results of the biggest ever survey of spring revealed during the Springwatch with Bill Oddie series. If you missed it, then don’t worry; the results have been archived at www.woodlandtrust.org.uk/springwatch and a full report can be downloaded at www.nhulip.org.uk.

We have had some wonderful images sent in over the last few months and here are two of our unusual nesting sites that we thought you might enjoy. (Houseover image for caption)

What next?
In the last two Springwatch programmes, Bill and Kate launched the Autumnwatch survey and we very much hope that you will be a part of it. Just like Springwatch it involves looking out for six familiar, seasonal signs, and once again you can enter records online, www.woodlandtrust.org.uk/autumnwatch is live and awaits your records.

Dear Springwatch recorders
Just a quick reminder that Springwatch with Bill Oddie starts on Monday May 30th, 8pm on BBC TWO. The series runs each weekday night from Monday to Thursday, 8-9pm until June 16th. Join Bill Oddie, Kate Humble, and Simon King as they report on how British wildlife is coping with our changing climate, and provide tips on how you can create breathing space for wildlife by making your own garden or local patch as wildlife-friendly as possible.

They will be revealing the results of our biggest ever survey into the arrival of spring, on May 31st and June 1st (more details at www.bbc.co.uk/springwatch). Tune in to see the difference your results have made, and then enjoy three weeks of spring viewing!

Thank you
A big thank you from us all for your contribution to the Springwatch...
Spreading the word

- Networking news
- Embedding information into other people’s websites
- Published results in respected journals
Nature Detectives

• To inspire skilled naturalists of the future
• To provide hands on experience of nature
• To raise awareness of climate change
• To shape the responsible citizens of tomorrow
• To inspire a lifelong love of nature
www.naturedetectives.org.uk
100,000 visitor sessions in 10 months

Welcome
Register
Quiz
Games
Resources
eGarden
Books
INSET

Resources

Register now to receive your free autumn pack
look out for spring and autumn events where you live
record at home or at school

Help research how pollution is affecting nature

register
to use the site
download our free
resources
record
the seasons

107,000 visits

Supported by the Heritage Lottery Fund

Our climate is changing – so are the seasons
Nature’s clocks are going cuckoo as the climate warms
Spring is arriving earlier and autumn is lasting longer...

Aug home or school edition
2,040 families taking part
927 schools taking part
250,000 results in so far

Supported by the Heritage Lottery Fund
All year round recording form

[Website screenshot showing a form for recording observations across different species and their relevance to the time of year.]
Simple but effective
www.naturedetectives.org.uk

Also now:

- Primary environmental science book, secondary planned
- Teacher training programme
- Nature Detectives sticker book, (partnership with independent publisher)
- Activity sheet in Virgin Trains’ Kidz Pack
- Discussions with Centre Parcs (holidays in the woods)
- Plans to become part of Scout activities
The future

• Securing funding
• Building the definitive national database for phenology
• Recruiting and retaining recorders (developing major partnerships e.g. BBC)
• Reconnecting people with nature and providing for lifelong learning.
• Using the science to inform conservation (woodland) management
UK Phenology Network