

# COM 06 Nature's Calendar

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## Context / Social problem

Nature's Calendar monitors, analyses, predicts and communicates the effects of changes in weather and climate on the annual cycle of natural phenomena. Examples of these annual recurring events are flowering, the emergence of leaves and leaf fall in plants, the beginning of bird migrations and the appearance of butterflies and other insects. These events depend strongly on the weather and can be followed by everyone every day 'in their own backyard'. The scientific discipline concerned with study of the times of recurring natural phenomena is phenology. Phenological changes have many ecological and socio-economic consequences.

## Activities and results of Nature's Calendar

Expansion of the monitoring programme: During the project period more plants and animals were added to the observation programme. In addition to an increase in the number of species, we also aim to recruit as many volunteers as possible to send in observations. Collection and digitisation of historical observations: Nature's Calendar uses historical phenological observations from 1868 and continually acquires new records. The database already contains 160,000 observations. Scientific analysis: The participating researchers are working on a number of questions, including:

1. How is the timing of the annually recurring natural phenomena under study influenced by climate factors?
2. What changes in timing have occurred in recent decades?
3. What will the timings of the processes mentioned be in future? Both short-term (days, weeks) and long-term (years, decades) changes will be of interest.
4. How will the variation and changes in timing affect the relevant socio-economic sectors?

Feeding observations and results back to the target groups: This includes the following activities:

1. Publish a weekly review of developments in the natural world on the website
2. Regular feedback via radio, TV and the print media
3. Technical development of the information system
4. Production of PR material
5. Publication of a Nature's Calendar guide

Development of an educational programme: Nature's Calendar has teaching material available which supplements primary and secondary school education with information on the relation between nature and climate change. Under this work package, assignments are being prepared on topics within ecology, agriculture and public health in relation to climate change. Pupils make their own observations and analyse them.

Nature's Calendar in various sectors: The Nature's Calendar project focuses on four socio-economic sectors. Agriculture, human health (hayfever, ticks and Lyme disease and Oak processionary Caterpillar), nature management and gardening. Together with stakeholders a selection of plants and animals is made to be included in the monitoring programme. We gather available historic phenological observations with which we analyse the relation between changes in weather and climate on the timing of relevant life cycle events. Based on this information we determine what the (potential) consequences of changes in climate are for the sector. More specifically we look at the ways the different stakeholders in these sectors should or could respond to the phenological changes.

