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Alpine Ecosystems Research Centre
Observatoire du Mont-Blanc
Lacets du Belvédère - 74400 Chamonix - France
Email: phenoclim@crea.hautesavoie.net
Tel: +33 (0)4 50 53 45 16

Phénoclim

A scientific and educational project

You too can measure the impact of climate change on plant life in the Alps

Register online
www.crea.hautesavoie.net

CreA
Centre de Recherches sur les Ecosystèmes d'Altitude

The Alpine Ecosystems Research Centre CREA, an *Association loi 1901* (French legal form for an association), is a unique research institute with links to the public.

CREA has two missions:

- Developing scientific understanding of high-altitude environments by conducting research programmes in various fields:

  - the ecology of the animal and plant populations

  - the impact of human activities

  - the impact of climate change

- Disseminating information about high-altitude environments and raising public awareness by organising activities to promote contact and discussion among researchers:

  - publications, conferences, seminars

  - training the professionals

  - educational activities for young people

CREA launched the Phenoclim programme in autumn 2004

Phénoclim is an interactive project

Phenoclim is aimed at everyone who lives in the Alps at an altitude of between 200 and 2,200 m:

- Children and adults
- Schools and colleges
- Associations and individuals

How Phenoclim works

Being part of Phenoclim means monitoring plants close to where you live in order to measure how the plant life cycle changes over the years.

- Ten plant species are being monitored: the spruce, larch, downy birch, silver birch, ash, rowan, common lilac, hazel, cowslip and coltsfoot
- You choose three of the species and carefully note the dates when the leaves change colour and fall in the autumn, when the buds open in spring, and when the leaves and flowers appear
- You then submit the information you have gathered online

Phenoclim is interactive

Online:

- Enter your data online
- Access documentation (methodology, thematic fact sheets, photo guide, quarterly newsletter)
- View the monitoring results
- Keep up-to-date with scientific developments
- Exchange information with other observers
- Put your questions to the researchers

For schools

The educational programme runs over several years and includes sessions in class and field trips organised and led by CREA.

The scientific benefits of Phénoclim

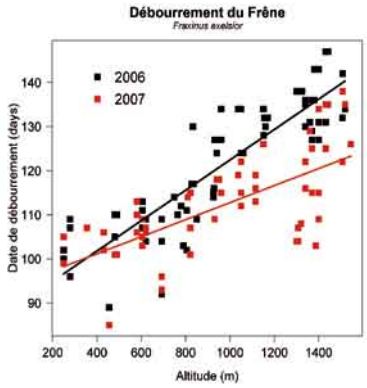
Phenoclim is part of a European network of scientific programmes that are studying changes in plant life in relation to climate change. The Phenoclim project is special because it is taking place in mountain areas, for which little climatic and phenological data has been available until now. The impact of climate change will be evaluated in terms of altitude and local conditions, which can vary a great deal in the mountains. Phenoclim is in this for the long term and hopes to expand to cover the whole of the Alps in the near future.

Phenology

Phenology is the study, over time, of the annual cycle of growth and development of living things. Plants or animals can be studied: for example, flowering, foliation, and leaf fall for plants, or when migratory birds arrive. These cyclical events are influenced by seasonal changes in the climate.

News flash

After an exceptionally mild winter and early spring in 2007, plants began their cycle earlier than in 2006, but the discrepancy varied depending on the species and the altitude. For example, the most marked difference at altitude was in the larch and ash – on average, everything happened around three weeks earlier in 2007. Why do some species react differently to climatic changes depending on the altitude? This is one of the questions that Phenoclim should answer.



Phenopiaf

This new programme is open to everybody who is interested in how climate change has affected the timing of the arrival of migratory birds in the Alps.

The Phénoclim weather stations

Around forty hi-tech temperature measuring stations, which have been designed specially for the programme, are currently in place all over the Alps close to plant monitoring sites. They constantly record the ground and air temperatures at different altitudes. These independent weather stations can measure variations in temperature in relation to local conditions (altitude, orientation, location). The aim is to establish a connection between the phenology and climatic factors.

Special weather stations

After over a year of research, a new generation of Phenoclim weather stations has emerged through an excellent partnership between a foundation, vocational training colleges in Haute Savoie and CREA:

- Fully automated with power from a solar panel
- Able to withstand extreme weather conditions
- Permanent data transmission using mobile phone technology

In the longer term, around one hundred automatic weather stations will be set up all over the Alps.

Phenoclim in 2007:

- There are 133 sites being monitored from the Mercantour to Lake Geneva, the Rhone valley to the Val d'Aosta, from the low valleys to the tree line
- Data is being collected by 68 schools, 59 individuals, 14 associations, and 10 protected areas and botanical gardens