

Climate Change brings an earlier spring to all?

In the west of Canada climate change means that spring plants are blooming earlier than they did 100 years ago. However, in the Maritimes the change is less regular and in coastal areas of Nova Scotia it seems that there is no change at all!

Should we be jealous of our neighbours to the west? Not really, don't forget that early blooming plants can be killed or damaged by later frosts.

PlantWatch Supporters

PlantWatch is supported by EMAN (the Ecological Monitoring and Assessment Network, a division under Environment Canada) and the Canadian Nature Federation.

Thanks to all who contributed observations to date – we couldn't do it without you!

Contact Information

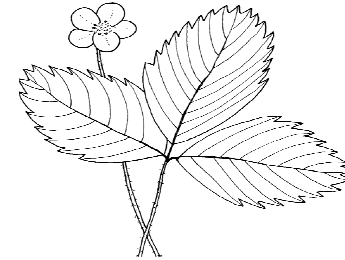
If you would like a guide or need more information or assistance, feel free to contact us by phone, post or e-mail. We are there to help!

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Visit our Web site at
<http://ca.geocities.com/nbwilderness/index.htm>

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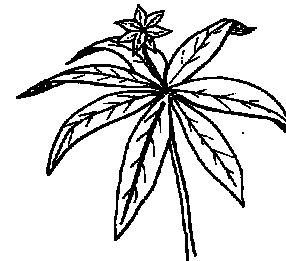
New Brunswick PlantWatch



Environmental monitoring program of flowering plants

2005

For all
ages!



Come and link your community
to its environment...

Are the conditions changing?

<http://ca.geocities.com/nbwilderness/index.htm>

What is PlantWatch?

Using plants to monitor climate change

PlantWatch is a nationwide phenology survey program which monitors changes in the environment. Phenology comes from the Greek “phaino” (to appear or show) and “logos” (to study). It simply means the study of seasonal appearances and timing of the life cycle events.

One of the most obvious events in the spring is the blooming of flowers. As the world’s climate is changing, spring flowers in some regions of the world are beginning to bloom at different times, while in other areas there is little change. PlantWatch NB hopes to discover where New Brunswick fits into this pattern.

Not all scientists wear white coats!

PlantWatch requires no technical equipment and very little experience allowing everybody, from students to Grandmothers, to contribute to this exciting project. All you need is a love of the outdoors, a pen and paper and a lot of enthusiasm

Join our team of PlantWatchers and help us to make history!

Local but global

PlantWatch projects are taking place across the globe from Japan and China to Europe and North America. However, within Canada each province has its own carefully tailored list of flowering plants to monitor and its own local co-ordinator. The aim of PlantWatch is to achieve great things by working at the local level.

Volunteers from all over Canada send in their observations to their local co-ordinator to be recorded in a central databank. You can even register your results online and view the results for the whole country. Visit <http://www.naturewatch.ca/english/plantwatch/> to register.

So, how do I get started?

Just follow these simple steps

1. Pick a location which you like to visit regularly, preferably on a relatively flat open area (avoid buildings and shady areas as they will influence temperatures and the flowering of the plants!).
2. Look for one or two of the 12 species of plants on the PlantWatch Survey. Some are easier to find than others.
3. Mark the plants with some kind of tag so that you can easily find them again.
4. When you visit your area, look at your plants. Are they flowering? How many flowers are there? One or many? Record your observations on the PlantWatch Survey.
5. Send us your results by August 1st or register online at <http://www.naturewatch.ca/english/plantwatch/>.

Our New Brunswick plant species...

| | |
|--------------------|----------------------------------|
| Purple lilac | <i>Syringa vulgaris</i> |
| Dandelion..... | <i>Taraxacum officinale</i> |
| Bunchberry..... | <i>Cornus canadensis</i> |
| Red maple | <i>Acer rubrum</i> |
| Clintonia..... | <i>Clintonia borealis</i> |
| Strawberry..... | <i>Fragaria virginiana</i> |
| Larch | <i>Larix laricina</i> |
| Labrador tea | <i>Rhododendron groenlandium</i> |
| Aspen | <i>Populus tremuloides</i> |
| Starflower..... | <i>Trientalis borealis</i> |
| Rhodora..... | <i>Rhododendron canadense</i> |
| Coltsfoot..... | <i>Tussilago farfara</i> |

Phenology – An ancient Science

Phenology may sound like an exciting new idea but it has been actually been practiced in Canada for centuries both by First Nations and by farmers and gardeners.

Phenology is so deeply rooted in Native cultures that times of the year are named after Phenological events. For example “temt’ka7” refers to a time period in August and means ‘when the salal berries ripen’.

Native peoples recognized that natural events always happened in a certain order, even if they didn’t always happen at the same time each year. For example, when Samuel de Champlain arrived at Cape Cod in 1605 the Wampanoag people told him that the best time to plant corn was when the white oak leaf was the same size as the footprint of a red squirrel.

We now know that the reason for this is that plants respond to the amount of heat they receive and the length of the day. As the temperatures increase from Winter to Spring, so different plants bloom as the temperature becomes right for them. The leaves of the white oak do not create good conditions for the planting of corn, this is simply a convenient co-incidence in their seasonal cycles.

How the Shadbush got its name

The Shadbush is another great example of phenology as part of our heritage. The bush does not look like a shad, it does not smell like a shad and its berries do not taste fishy, so why name it after one?

Well, because people on the East Coast recognized that the best time to fish for shad was when the Shadbush was in bloom.

Modern uses

Today farmers, foresters and gardeners all need to stay in touch with their environment. Taking note of the natural events taking place around them will allow them to predict the best times for planting, irrigating, fertilizing crops and controlling pests even though the exact dates may change each year.

The roots of Plant Watch

Since 1996, Nova Scotia Plantwatch has collected spring flower dates for 12 plant species at 200 sites in the province, thanks to several observers in schools and in communities.

The interesting point in this province is that data can be compared with records collected by Alexander MacKay between 1892 and 1923. MacKay was the school superintendent in Nova Scotia during this period of time and motivated schools to record phenological data of flowering, ice formation, bird arrivals and departures for several years.

This treasure of data is important. Although the Mackay data was from a colder climatic interval in the Northern Hemisphere, most flowering dates are not significantly different from the present warmer (+0.5 – 0.7°C) period except during the 1998 season of record warmth. However, while mayflower showed significantly later dates of first bloom, lilac flowers earlier.

Some of the variation within the province may be linked to oceanic influence; other variation reflects latitudinal gradients. The observations reported from this survey are compatible with the climate changes detected by more sophisticated equipment and can show the value of using it in our communities

Growing PlantWatch New Brunswick

In New Brunswick, Plantwatch is more recent and needs your help. Are we really moving towards a cooling or a warming period in our region? What are the impacts of such changes? We need to start watching our plants to find out what they can tell us about our changing environment.

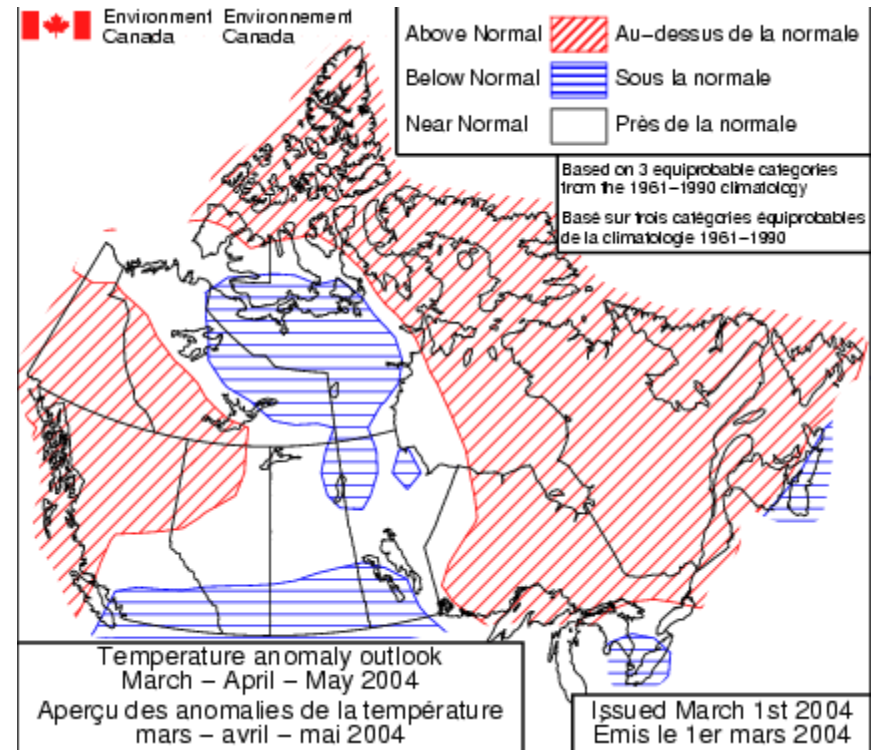
New Brunswick PlantWatch was started in 2002, the year of the nationwide launch of PlantWatch, with just 15 participants. In 2003 that number increased dramatically to reach 53! and this year we hope to do even better!

Results for 2003 (means for the province)

| Species | Flowering dates | | |
|--|----------------------------------|-------------------------------------|--|
| | First 10% bloom A few flowers | Mid bloom (50%) Half the flowers | Full bloom (90%) Almost all flowers |
| Trembling aspen <i>Populus tremuloides</i> | May 8 | May 10 | May 12 |
| Red Maple <i>Acer rubrum</i> | May 10 | May 10 | May 16 |
| Labrador Tea <i>Rhododendron groenlandium</i> | N/A | N/A | N/A |
| Larch/Tamarack <i>Larix laricina</i> | May 5 | N/A | N/A |
| Clintonia <i>Clintonia borealis</i> | June 8 | June 11 | June 13 |
| Star Flower <i>Trientalis borealis</i> | June 8 | June 11 | June 12 |
| Rhodora <i>Rhododendron canadense</i> | May 25 | May 30 | June 8 |
| Purple Lilac <i>Syringa vulgaris</i> | June 1 | June 10 | June 14 |
| Coltsfoot <i>Tussilago farfara</i> | April 22 | May 2 | May 6 |
| Bunchberry <i>Cornus canadensis</i> | May 27 | June 8 | June 16 |
| Dandelion <i>Taraxacum officinale</i> | May 13 | May 21 | May 28 |
| Wild Strawberry <i>Fragaria Virginiana</i> | May 21 | May 25 | May 27 |

As you can see we need your help!

More results and MAP



MAP Source : http://meteo.ec.gc.ca/saisons/index_f.html#forecasts