

## Plant Hardiness Zones

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### Abstract

Nine zones indicate the areas where various trees, shrubs and flowers are most likely to survive. These zones are calculated based on average climatic conditions and altitude of each area. The harshest zone is 0 and the mildest is 8. Each major zone is divided into subzones a and b (for example 3a and 3b) where zone a is slightly harsher than zone b.

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The map provides an indication of the locations suitable for growing of trees and shrubs based on their ability to survive. Gardeners are familiar with this type of information because they use it to determine which plants to grow.

### Methodology

This map shows an index of suitability for growth of trees, shrubs and flowers. It is calculated for all the areas in the country, using an equation that integrates climatic data from the 1930 to 1990 period. The climatic data used to calculate the index are the minimum winter temperatures, the length of the frost-free period, summer rainfall, summer maximum temperatures, snow cover, January rainfall and the maximum wind speed. Elevation data were also taken into account because of its direct effect on temperature and precipitation. Data are derived from a 2 kilometre by 2 kilometre grid.

### Interpretation of the Map

The map is divided into nine major zones: the harshest is 0 and the mildest is 8. Each major zone is divided into subzones a and b (for example 3a and 3b) where zone a is slightly harsher than zone b. These nine zones are associated with probabilities of plant survival in relation to the average climatic conditions. However, some variations can occur within a zone because of significant local factors such as a change in the topography, variations of snow cover, year-to-year weather variations, exceptional weather events and even gardening techniques which have a significant impact on plant survival in any particular location.

The information presented on this map only gives a general indication of plant hardiness and is accurate to plus or minus two zones. In fact, errors can occur in station data and estimates between stations. The weather also fluctuates from year to year and the local variations may not be reflected on the map.

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## Map Sources

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## References

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[http://planthardiness.gc.ca/ph\\_main.pl?lang=en](http://planthardiness.gc.ca/ph_main.pl?lang=en)

McKenney, Dan and Kathy Campbell. 2002. Getting into the Zone - What does Canada's new plant hardiness zones map really mean? Frontline, Forestry Research Applications, Technical notes no 103, Canadian Forest Service, Sault Ste. Marie. (Available in PDF only) <http://cfs.nrcan.gc.ca/forestresearch/subjects/landscape>

McKenney, Dan et al. 2002. Going Beyond the Zones - some next steps to knowing what can grow where in Canada. Frontline, Forestry Research Applications, Technical Note no 104. Canadian Forest Service, Sault Ste. Marie. (Available in PDF only) <http://cfs.nrcan.gc.ca/forestresearch/subjects/landscape>

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## **Related Web sites (1999 – 2009)**

### **Federal Government**

Agriculture and Agri-Food Canada. Canadian Soil Information System. The National Soil DataBase. Plant Hardiness Zones in Canada

<http://sis.agr.gc.ca/cansis/nsdb/climate/hardiness/intro.html>

The Plant Hardiness Zones map outlines the different zones in Canada where various types of trees, shrubs and flowers will most likely survive. It is based on the average climatic conditions of each area.

Natural Resources Canada. Canadian Forest Service. Great Lakes Forestry Centre. Canada's Plant Hardiness Site

<http://planthardiness.gc.ca/index.pl?&lang=en>

Canada's plant hardiness map provides insights about what can grow where. It combines information about a variety of climatic conditions across the entire country to produce a single general map.

Natural Resources Canada. Canadian Forest Service. Great Lakes Forestry Centre. Canada's Plant Hardiness Zones (Technical details)

<http://cfs.nrcan.gc.ca/forestresearch/subjects/landscape>