- A slight digression (but relevant [to some...maybe]):

- Some spatial data to support climate change studies
  - Climate data
  - Climatic domain of individual species

Our Climate web page – an ongoing effort to populate and update…(http://www.glfc.cfs.nrcan.gc.ca/landscape/index_e.html)

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Canadian Forest Service

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Regional, National and International Climate Modeling

We have been applying the thin plate spline smoothing algorithms (ANUSPLIN) developed by Dr. Michael Hutchinson of The Australian National University (http://cres.anu.edu.au/) to Canadian and U.S. climate data. This work is in partnership with Dr. Hutchinson and The National Archive and Data Management Branch of Environment Canada. We thank them for access to data and for encouraging the development of our spatial climate models.

Thin plate splines should not be confused with simple univariate cubic splines. They can be thought of as a non-parametric, multi-dimensional curve fitting technique for application to noisy multi-variate data. ANUSPLIN offers an operationally efficient means to develop spatially continuous climate models ("surfaces"). This is especially important to many forest applications because weather station data are rarely available in remote forest locations.

The approach is also useful for mapping climate. Gridded climate data is often used for running spatial process models and other ecological applications.

Many articles are available which describe the methods and applications in detail. View list.

Our aims are to support climate impact and climate change analyses in forestry including species modeling, exotic species risk assessments and productivity studies. This page will be updated on an ongoing basis.

Our work includes the following.

1. Long term mean surfaces and grids for Canada
2. Long term mean surfaces and grids for North America
3. Monthly historical surfaces and grids dating from 1900 for North America (contact dmckenne@nrcan.gc.ca if interested)
4. Surfaces and grids of GCM and RCM climate change scenarios to support climate change impact studies.

   Visit the Transient High Resolution Data link to download data at:
   http://www.cics.uvic.ca/scenarios/index.cgi?Transient_High_Resolution_Data

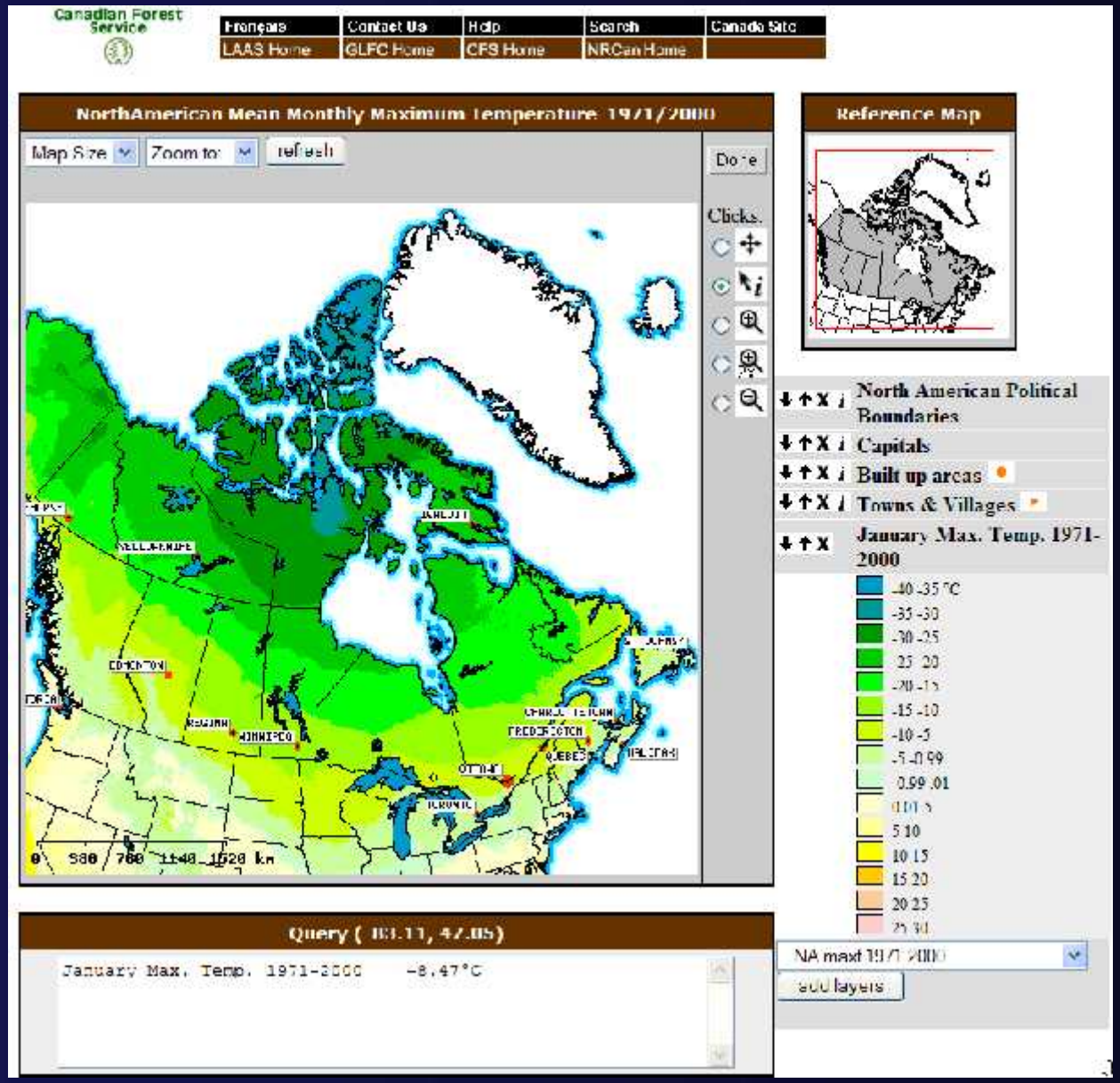
   Also see the Climate Change link at the Atlas of Canada for some maps and animations developed with partners.
   http://atlas.gc.ca/site/english/maps/index.html

5. Weekly mean (1961/90) and historical surfaces from 1961(contact dmckenne@nrcan.gc.ca if interested)
6. Daily surfaces for parts of Canada from 1961 (contact dmckenne@nrcan.gc.ca if interested)
7. Other miscellaneous surfaces: (see i on interactive mapper for details)
   Vapour Pressure
   Sunshine hours
   Global Radiation
   Potential Evapotranspiration
   Extreme mimimum temperature

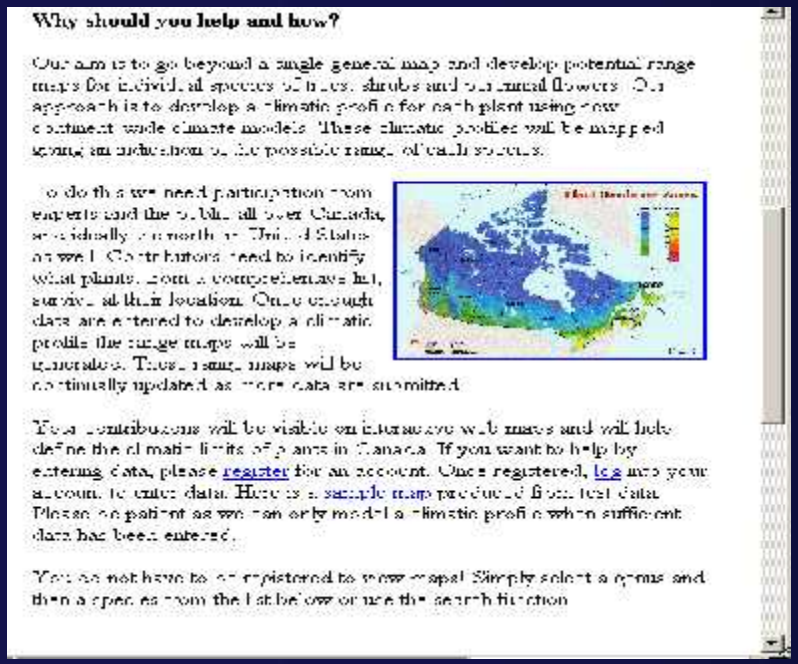
Some of our climate surfaces will be available for downloading to all web users, others require special permission because they have not been completely tested and/or peer reviewed.

Last Updated: 2004-04-19 ▲ Important Notices

Map viewing, zooming, queries online using Map Server



Country/Province	Year	Surface description
CANADA "Normals"	**1971-2000**	Max / Min Temperature, °C , Precipitation, mm
	1961-1990	Max / Min Temperature, °C; Precipitation
		Extreme Max / Min temperature
		Dew point temperature, Dry / Wet bulb temperature
		Frost free period, PET, Radiation, Rain, Wind speed, km/h
		Rel. Humidity, %, Vapour Pressure, kPa, PAN Evap., Lake Evap., mm
	1930-1960	Max/Min Temperature, °C; Precipitation, mm
		Bright sunshine, hrs, Rel. Humidity, %, Vapour Pressure, kPa
North America "Normals"	**1971_2000**	Max / Min Temperature, °C; Precipitation, mm, Extreme Min.Temperature
	1961-1990	Max / Min Temperature, °C; Precipitation, mm
		Radiation, Wind Speed, Rel. Humidity, Vapor Pressure
CANADA "Historical" (monthly)	**1901-2000**	Max/Min Temperature, °C; Precipitation, mm
	1958-1993	Radiation, Potential Evapotranspiration (PET)
North America "Historical" (monthly)	**1901-2000**	Max/Min Temperature, °C; Precipitation, mm
Canada + United States (Alaska included)		Extreme Min.Temperature, °C
Canada Plant Hardiness project	**1961-1990**	Max/Min Temperature, Frost-free days, Rain, Snow Cover, Wind speed
	1930-1960	
General Circulation Models (GCM), NA coverage		A2/B2 Scenarios for each of two circulation models;
CGCM2 - Canadian General Circulation Model 2	**1900-2100**	Max/Min Temperature (difference)
		Precipitation, Solar Radiation, Wind speed, Vapour Pressure (ratios)
HADCM3 - Hadley Circulation Model 3	**1950-2099**	Max/Min Temperature (difference)
		Precipitation, Solar Radiation, Wind speed, Vapour Pressure (ratios)
Selected weekly and daily for Canada	**1961-1996**	Max / Min temperature, Precipitation, Snow depth, SWE
	1961-2000	Radiation, Pan Evaporation
Updated: September 2004		



Plant Hardiness

("climatic domain") Web Application

You do not have to be registered to view maps! Simply select a genus and then a species from the list below or use the search function.

Natural Resources Canada's plant hardiness map.
Agriculture Canada's plant hardiness site.
Technical details about why and what we are doing
Climate maps and hardiness indicies used to develop the new plant hardiness zones.
Canadian equivalent to the USDA hardiness zones map.
Help using this site
Acknowledgements
NEW Statistics: What plants have data?
NEW Statistics: What plants have preliminary biomaps?
NEW List what plants have been submitted in my area.

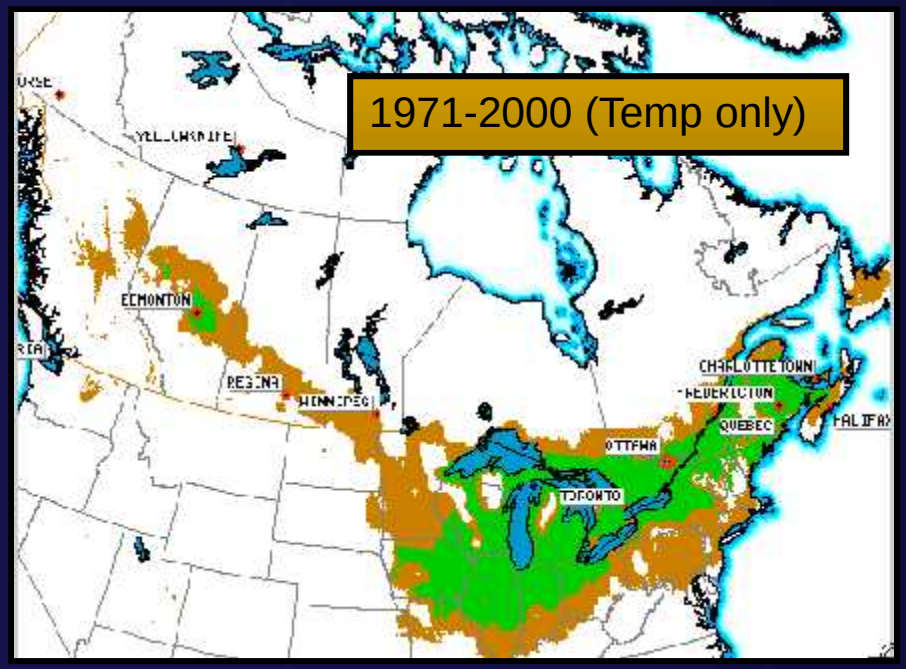
View maps or add data.

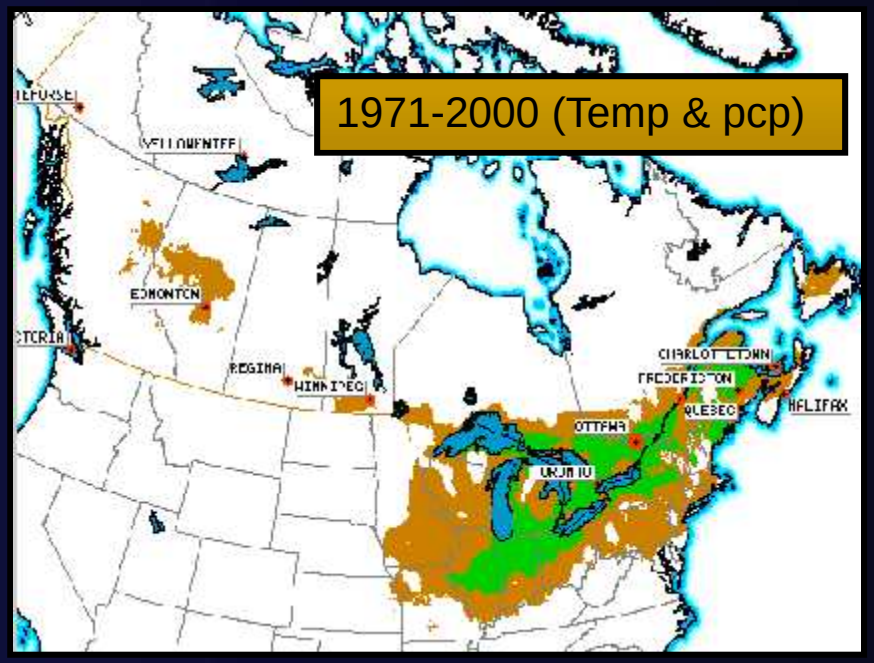
Select a letter for the Genus list and then choose a species OR use search

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Search (latin or common name keyword search)

Register Log In





Sugar Maple Biomaps

- Observation data from throughout NA used to develop and map climatic profiles

- Temperature models only for “gardeners”

- Temperature and precipitation models for “ecologists”