

CANADA — FROST-FREE PERIOD

Produced by the Geographical Services Directorate, Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, Canada. Printed 1981.

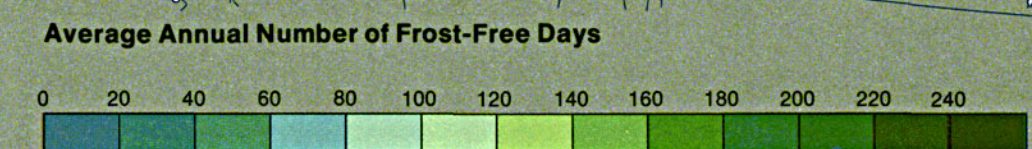
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Des exemplaires de cette carte sont disponibles en français.

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 Scale 1:7 500 000 or one centimetre equals 75 kilometres
 75 0 75 150 225 300 375 450 Kilometres
 Lambert Conformal Conic Projection—Standard Parallels 49°N and 77°N
 Modified Polyconic Projection North of Latitude 80°



FROST-FREE PERIOD
 Frost is assumed to occur when the minimum daily temperature is 0°C or less. The Atmospheric Environment Service frost data used for this map are based on minimum daily temperatures as observed at a height of approximately 1.5m above the ground. For this presentation, the frost-free period is considered to be the number of days between the last spring frost and the first autumn frost. The frost-free period at ground level will be somewhat shorter than indicated on the map because under conditions of clear skies and light winds (conditions that usually prevail at times of frost occurrence), minimum temperatures near ground level are always lower than the recorded minimum temperatures. This difference is usually between 3° and 6°C, but can be as great as 14°C.
 Local topography has a significant influence on the incidence of frost. Cooler, cold air tends to drain to lower levels and to collect in valleys or depressions, particularly in the absence of winds, causing frost to occur in these locations. Alternatively, ground fog may sometimes prevent a lowering of temperatures in valley locations, thereby averting the incidence of frost. Large open water bodies exert a modifying influence on the occurrence of frost in adjacent areas.



• Climatological recording station

Note: The average annual number of frost-free days was derived for approximately 1 200 climatological stations from 1941-1970 minimum daily temperature normals. Because of the constraints on station interpretation imposed by the uneven and often sparse distribution of recording stations, the climatological recording station network can be used as a partial index of climate reliability. Isolines are most representative in areas of uniform flat terrain. Significant local deviations from the pattern indicated should be expected as terrain irregularity increases. Abrupt changes in climatic characteristics occur in mountainous regions in response to significant variations of elevation, aspect and slope, within short distances. In areas of mountainous terrain, isolines are representative of valley conditions only. A discontinuous line symbol is used over water bodies to indicate approximate values.

Manuscript map provided by the Canadian Climate Centre, Atmospheric Environment Service, Environment Canada. Special advice by D.W. Phillips, Canadian Climate Centre. Research by S.K. Kelly, Geographical Research Division, Cartography by the Cartography and Toponymy Division.

Sources: Canada Department of Transport, Meteorological Branch, 1968, Climate Normals, Volume 6, Frost Data/Normalles climatiques Tome 6, Données de Gel, Toronto; Hamnerick, G.M. and Marsall, G.R. 1972, Frost Data 1941-1970, Downsview, Ontario: Environment Canada, Atmospheric Environment Service; Environment Canada, Atmospheric Environment Service, Canadian Climate Centre, 1978, Frost Free Period Unpublished map, Scale 1:5 000 000, Downsview, Ontario.