

# North is that direction

by **Chuck McNiven**

There is no doubt that Canada has a North, but where is it? Most people probably consider the North to be “the Far North” or “north of 60° latitude” — Yukon, the Northwest Territories and Nunavut. But this definition does not capture many of the essential elements that constitute the North, and it ignores those more southerly regions of the country that share similar climate, physical attributes and settlement patterns with the Far North — the northern regions of Quebec, Ontario, the Prairie provinces, British Columbia and Labrador.

Geographers have developed some consensus on what defines the North, but no common agreement about its boundary has emerged. Now, issues such as Aboriginal land claims, the protection of the environment and the development of resources call for a definition that would serve a wide range of purposes and needs by addressing genuine characteristics of “northness.” This study amalgamates many existing methods of delineating the northern boundary to propose a new, more universal concept of Canada’s northern regions; it then demonstrates the usefulness of the concept for examining population characteristics.

## Where is North?

The diversity of views about the North is reflected in the many competing concepts of the North. Perhaps the most obvious choice is the cold climate, which shapes almost all aspects of the northern environment. Not solely a reflection of latitude, temperature reflects topography, hydrological features, prevailing winds and ice pack, but most importantly soils and vegetation. Soils represent the cumulative effects of environmental, chemical and biotic processes occurring over millennia. Cold temperatures inhibit soil development, which suppresses agricultural activity, which alters settlement patterns, which dampens economic growth. Since temperature both enables and curtails human activity, it is a measure of an area’s potential usefulness.

Given the interaction and interdependence between climate, human activity and biosphere, it is clear that no single variable is sufficient to define the North. Most of the well-known definitions, however, tend to place greater emphasis on one or another facet of the northern environment. The Arctic definition, for example, focuses on the natural frontiers between the arctic and the sub-arctic, and draws the boundary at the southern limit of the boreal forest.<sup>1</sup> On the other hand, the “accessibility approach” emphasizes the economic character of the North, placing key importance on distance and population density in providing basic social and economic needs. This concept essentially classifies the North as a hinterland to be developed and exploited for its natural resources. In fact, the relationship between remoteness and economic well-being is the basis for federal policies concerning taxation allowances for people living in remote areas; the Income Tax Relief Zones, for example, clearly define the North by latitude.

The idea of the Aboriginal North suggests it is possible to regard the native north and resource areas as Canada’s North,<sup>2</sup> using differences in Aboriginal characteristics as the determining factor.<sup>3</sup> A more complex variant of this approach is offered by the “nordicity concept,”<sup>4</sup> which recognizes that the North has cultural as well as physical aspects. The nordicity index includes ten items, ranging

1. Bone, R. 1992. *The Geography of the Canadian North: Issues and Challenges*. Toronto: Oxford University Press.
2. Bollman, R. 1994. “A preliminary topology of rural Canada,” in *Towards Sustainable Rural Communities: The Guelph Seminar Series*, J. Bryden (ed.): 141-144. Guelph: University of Guelph.
3. Maslove, A.M. and D.C. Hawkes. 1990. *Canada’s North: A Profile*. Ottawa: Statistics Canada Catalogue 98-122.
4. Hamelin, L.E. 1972. “L’écoumène du Nord canadien,” in *Studies in Canadian Geography: The North*, W. Wonders (ed.): 25-40. Toronto: University of Toronto Press.

from natural barriers, such as annual cold and plant cover, to human variables like accessibility and economic activity.

The boundary proposed in this article incorporates elements of all these ideas. It is based on a set of 16 variables that represent a complex set of factors and incorporates such diverse elements as the southern limits to the boreal forest, heating degree-days and income tax relief zones, in addition to the northern limits of agriculture, railways and all-season roads. Taken together, these variables provide a fairly inclusive definition of Canada's North. But when they are mapped, it is clear that there is not a distinct north-south divide; rather, what emerges is a gradual transition from north to south. To acknowledge this finding, two intermediate regions — the north and the south transition zones (NTZ and STZ) — were introduced to the definition. This new boundary shows that simple two-way comparisons of north and

south mask interesting differences within the northern regions: it is evident that residents of the North are often quite different from their neighbours in the north transition zone.

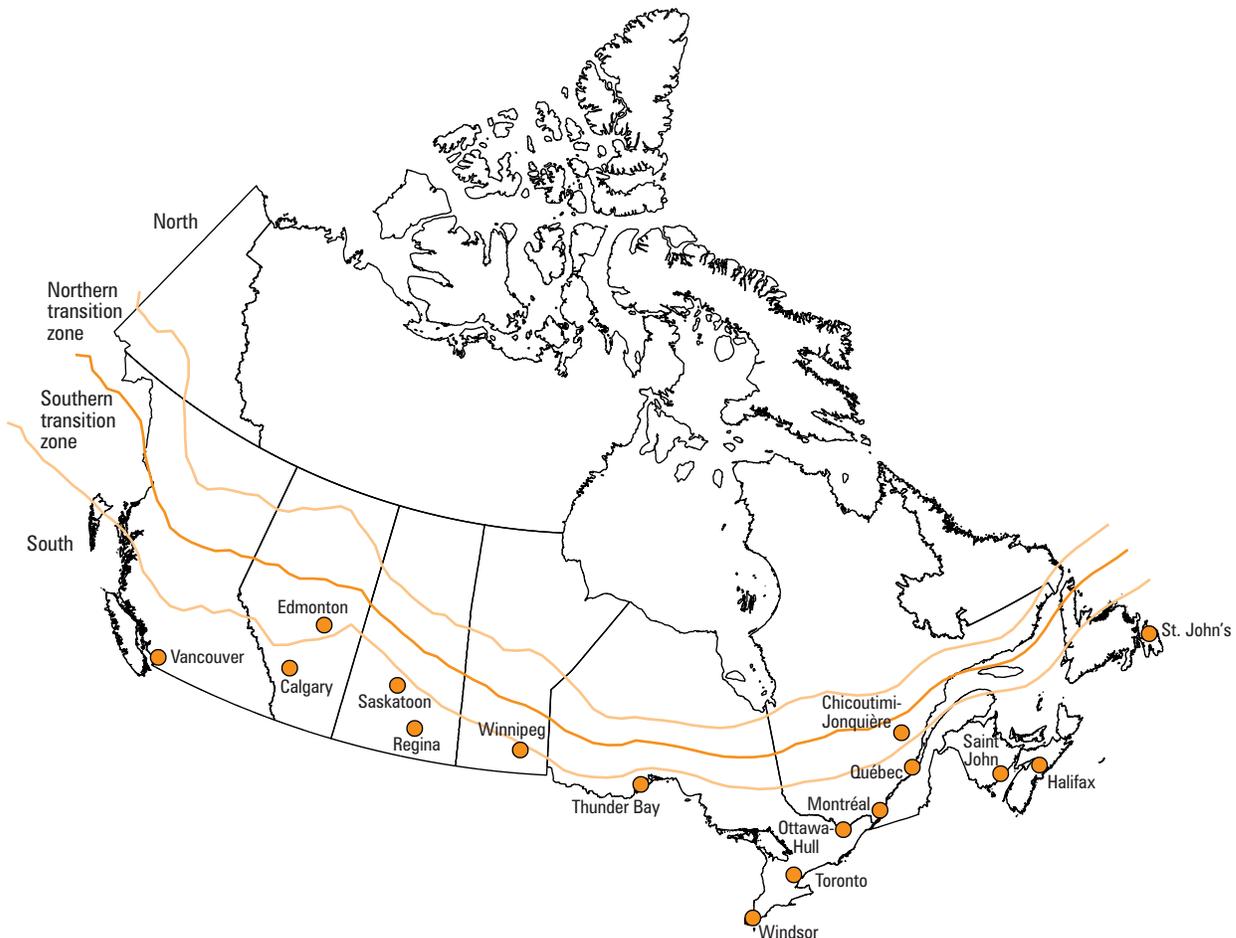
### People are younger in northern Canada

All told, less than 2% of Canadians live in the country's immense northern regions. The population is only about 513,000, less than the census metropolitan area of Hamilton (624,000 in 1996). Almost one-third (186,000) live in the North and the remainder (327,000) live in the north transition zone (NTZ).

There is a slight gender imbalance in the northern regions, with men accounting for about 52% of the population in the North and for 51% in the NTZ. In fact, the proportion of women equals that of men in the northern regions only in the prime family formation (25 to 34) and

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## Canadian North, South and Transition Zones



Source: Statistics Canada, 1996 Census of Population.

senior age groups. In the South, women account for 51% of the population between ages 25 and 64, and for 57% in the 65 and over age group.

The most striking aspect of people in the northern regions, though, is their youth. In the South, about one-third of the population is less than 25 years old. But 50% of the residents in the North and 44% in the NTZ are under 25, with the difference in the age structures mainly the result of the higher percentage of people under age 15 in the North. The North also has proportionally fewer residents aged 45 and older than the NTZ (18% versus 24%). This difference suggests that people may work in the North but prefer to retire in southern communities.

The extreme youth of the population is partly attributable to the high concentration of Aboriginal peoples.<sup>5</sup> The

## CST What you should know about this study

Data for the 16 variables used to delineate the geographic boundaries were drawn from an extensive array of sources, and included the accessibility index, the agriculture ecumene, the agroclimatic resource index, the southern limit of the boreal forest, growing degree-days, heating degree-days, the isolation index, Revenue Canada's intermediate tax deduction, Revenue Canada's northern tax deduction, the Organization of Economic Cooperation and Development north delineation, the limit of discontinuous permafrost, the population ecumene, the northern limit of railways, the northern limit of all-season roads, the rurality index, and the Thornthwaite climate classification.

The boundaries were drawn using census subdivisions (CSD) from the 1996 Census of Population. CSDs that clearly fall into a given region were allocated to that region, whether the North, the transition zones or the South. Some CSDs straddled a regional boundary (especially in many of the very large CSDs in the northern areas of most provinces). In these cases, the CSD was allocated to the region in which the main centre of population is located.<sup>1</sup>

**Northern regions:** the North and the north transition zone.

1. Areas with zero population were allocated to north, south or transition zones by geographic centre.

Aboriginal populations, which are very young and growing quickly, account for a high proportion of northern residents — 43% compared with less than 2% in the South. In the NTZ, where a large percentage of First Nations communities are located, 25% of the population is Aboriginal. But in the North, home to the Inuit as well as many Cree and Athapaskan reserves and settlements, 60% of the people are Aboriginal.

An educated population is crucial for economic growth and development. Yet only 43% of Canadians aged 15 and over living in the northern regions have at least some post-secondary education, compared with 52% of those in the South. The gap is even greater at the university level, at 7% versus 14%. This finding contradicts the general rule that younger populations are better educated. Part of the explanation may lie in problems of access, since many postsecondary and most degree-granting institutions are located in the South.

### The greatest differences between North and NTZ are economic

The most notable differences between the residents in the North and the NTZ stem largely from the economic disparities between the two areas. The North has huge hydroelectric facilities in northern Quebec and Labrador, as well as extensive mining activities, the territorial capitals and associated government activities. The NTZ, by contrast, tends to be resource poor and most of it is located where the Canadian Shield and severe Arctic winters intersect. It has few urban centres. So although the percentage of working-age people employed was about the same in both regions (nearly 60%), the proportion of workers employed in service-producing industries, which tend to provide year-round work, are very different: 78% in the North and 66% in the NTZ. The differences are especially notable in community and government services, which employed almost 39% of workers in the North but only 25% in the NTZ.

Employment income accounts for 85% of total personal income in the North and 82% in the NTZ; in contrast, it accounts for only 75% of income in the South, where almost all the economic activity in the country is located. The North is also less reliant on government income than any other region: only 12% of total personal income comes from government sources compared with 13% in the NTZ and 14% in the South.

### Summary

The North really should be envisioned as a layer of dimensions from physical characteristics to environmental attributes, and from population settlement to economic

5. All figures for Aboriginal peoples exclude incompletely enumerated Indian Reserves.

	North	North transition zone (NTZ)	Northern regions (North and NTZ) %	South	South transition zone
<b>Male</b>	52	51	52	49	50
<b>Female</b>	48	49	48	51	50
<b>Age group</b>					
Under 15	33	28	30	20	23
15 to 24	17	16	16	13	14
25 to 64	47	51	49	55	53
65 and over	3	6	5	12	10
<b>Aboriginal population</b>	60	25	43	2	7
<b>Educational attainment</b>					
Less than high school	47	46	47	34	39
High school	8	11	10	14	14
Trade diploma	4	4	4	4	4
Non-university postsecondary	32	32	32	34	33
University	8	7	7	14	10
<b>Employment rate<sup>1</sup></b>	58	60	59	59	60
<b>Employment by industry sector</b>					
Goods-producing	23	34	30	25	28
Service-producing	78	66	70	75	72
<b>Source of income</b>					
Employment	85	82	83	75	77
Government	12	13	13	14	14
Other	3	5	4	11	9
<b>Population ('000)</b>	<b>186</b>	<b>327</b>	<b>513</b>	<b>25,732</b>	<b>2,283</b>

1. Employed as a percentage of working-age population.

Source: Statistics Canada, 1996 Census of Population.

activity. It is difficult to define the North in a way that will satisfy all social, economic or political needs. However, it is clear that the character of the population gradually changes as one moves further north: if a single boundary divides north from south, the individual character of the North is lost. Extending the boundaries to include intermediary areas of transition enhances our understanding of the needs and aspirations of Canada's immense northern regions.

This article is adapted from a forthcoming working paper and will be available on the Statistics Canada website.