

CANADA

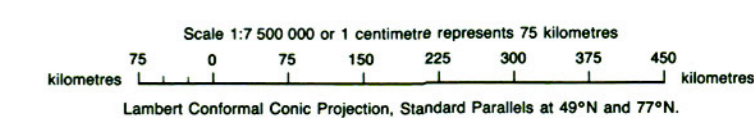
THE URBAN SYSTEM

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THE URBAN SYSTEM

Canada is an urban nation. Two-thirds of the population and three-quarters of the economic activity is found within 150 urban centres that make up only 2% of the land area of the country. This map emphasizes the importance of these urban centres, the interdependencies between these centres and their hinterlands, and the interaction among these centres, hence the notion of an urban system. The themes of urban interdependence and hinterland relationships are spatially represented by means of migration statistics.

Urban Interdependence

The spatial pattern of contacts and interactions among a set of cities is represented by the measure of largest migration outflow. Arrows converge on the urban centre destination of the largest number of out-migrants from each urban centre for the intercensal period of 1976-1981. Typically, the largest outflow from each centre moves to a larger place. The largest centre, Toronto, becomes the ultimate destination, and therefore has no outflow indicated. The only breakdown in this regularity occurs with Calgary, which was, for this time period, the principal destination of out-migrants from two centres of larger size, Vancouver and Edmonton. The secondary out-migration destinations for these two centres have been indicated on the map in addition to the primary flows: the secondary flow for Vancouver going to Toronto, and that for Edmonton, to Vancouver.

The flow lines group urban centres into regional subsystems which centre on the largest places. They emphasize the strength of contacts within regions, and the barriers (e.g. provincial boundaries, physiography, language) between different parts of the country. The resulting pattern reflects the hierarchical set of relationships that links each urban place to another larger nearby centre on which it depends for certain specialized goods and services. Through this network all urban centres, hence all parts of the country, are linked into the urban system.

The day-to-day contacts among cities largely reflect the characteristics and locations of these places. Large cities close to one another generate high levels of interaction, while smaller isolated centres show very low levels of interaction. These patterns of intensive contacts in turn create a network of possibilities for long-term migrations of demographic or economic activities that may permanently restructure the urban system.

The linkage patterns revealed on this map are also valid for many other economic activities, for flows of information, money, and goods. They could be represented similarly by other variables such as telephone calls, air passenger movements, and mail flows. The largest outflow linkages are also quite stable over time. Much of the hierarchical pattern is attributable to characteristics of population size and distance. It should be borne in mind, however, that the largest outflow concept ignores the "main street" effect, the channelling of large flows among a small number of large centres. International linkages are also not represented.

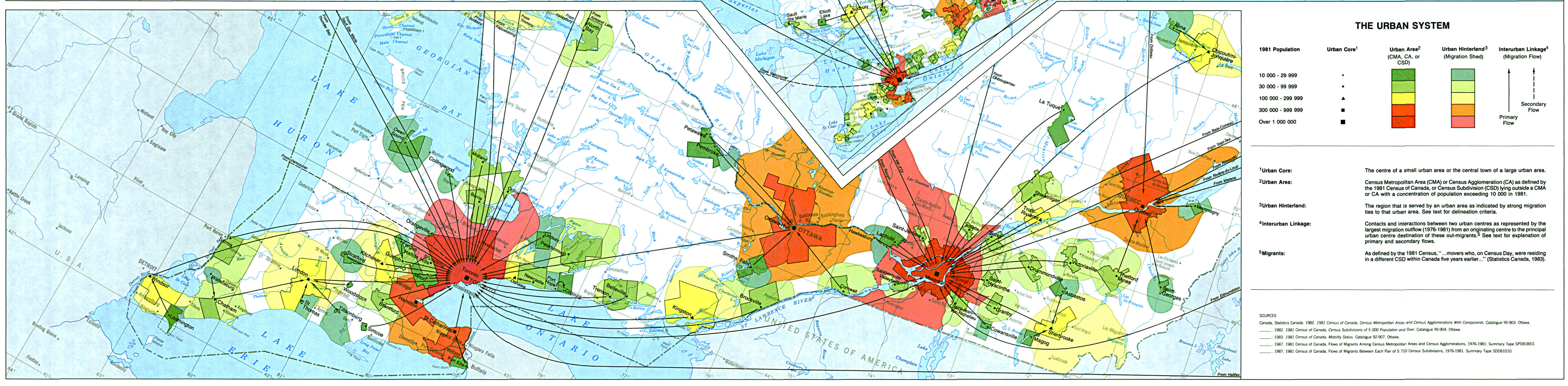
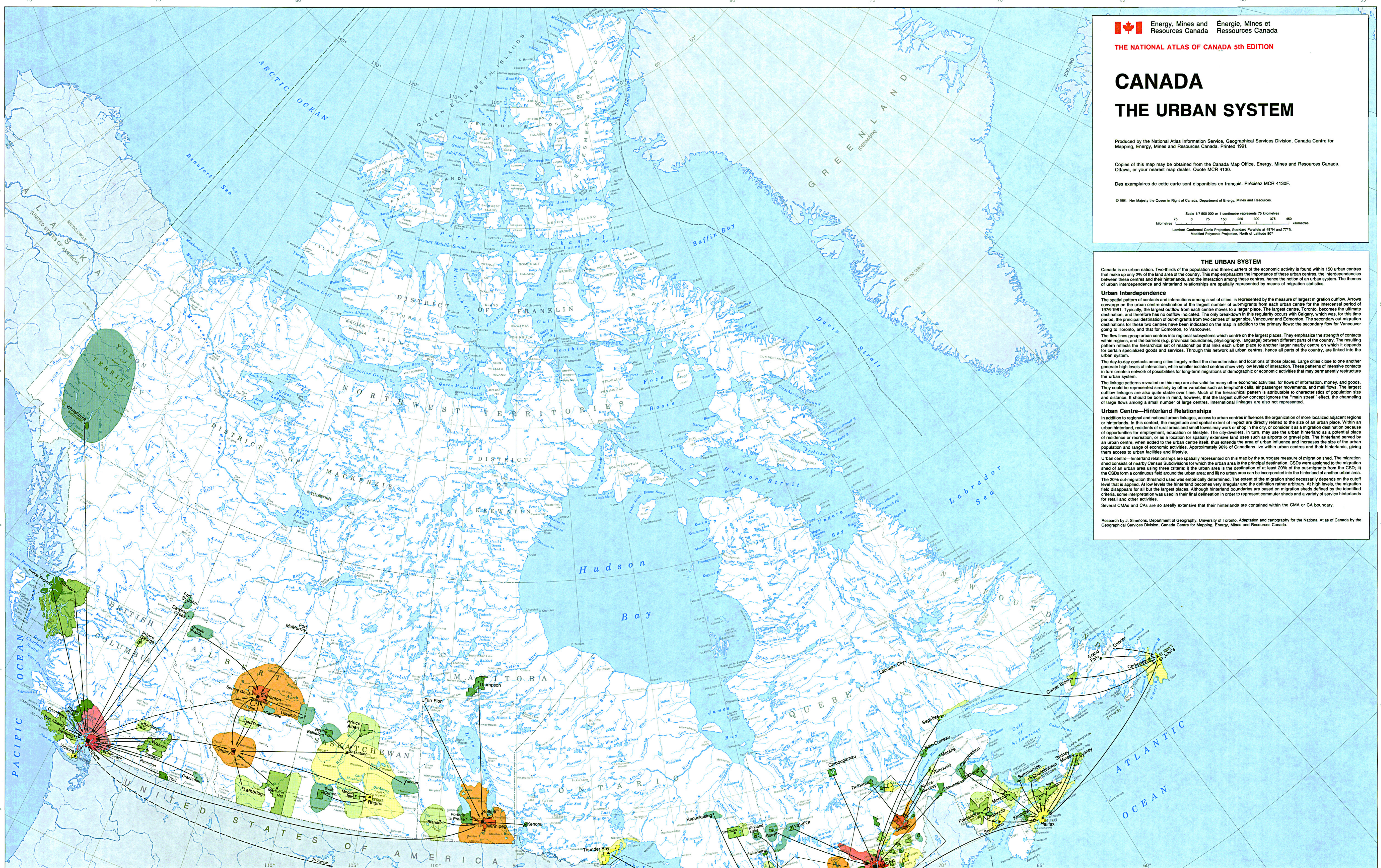
Urban Centre-Hinterland Relationships

In addition to regional and national urban linkages, access to urban centres influences the organization of more localized adjacent regions or hinterlands. In this context, the magnitude and spatial extent of impact are directly related to the size of an urban place. Within an urban hinterland, residents of rural areas and small towns may work or shop in the city, or consider it as a migration destination because of opportunities for employment, education or lifestyle. The city-dwellers, in turn, may use the urban hinterland as a potential place of residence or recreation, or as a location for spatially extensive land uses such as airports or gravel pits. The hinterland served by an urban centre, when added to the urban centre itself, thus extends the area of urban influence and increases the size of the urban population and range of economic activities. Approximately 60% of Canadians live within urban centres and their hinterlands, giving them access to urban facilities and lifestyle.

Urban centre-hinterland relationships are spatially represented on this map by the surrogate measure of migration shed. The migration shed consists of nearby Census Subdivisions for which the urban area is the principal destination. CSOs were assigned the migration shed of an urban area using three criteria: (i) the urban area is the destination of at least 20% of the out-migrants from the CSO; (ii) the CSOs form a continuous field around the urban area; and (iii) the urban area can be incorporated into the hinterland of another urban area. The 20% out-migration threshold used was empirically determined. The extent of the migration shed necessarily depends on the cutoff level that is applied. At low levels the hinterland becomes very irregular and the definition rather arbitrary. At high levels, the migration shed disappears for all but the largest places. Although hinterland boundaries are based on migration sheds defined by the identified criteria, some interpretation was used in their final delineation in order to represent commuter sheds and a variety of service hinterlands for retail and other activities.

Several CMAs and CAs are so areally extensive that their hinterlands are contained within the CMA or CA boundary.

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1981 Population	Urban Core ¹	Urban Area ² (CMA, CA, or CSD)	Urban Hinterland ³ (Migration Shed)	Interurban Linkage ⁴ (Migration Flow)
10 000 - 29 999	•	Light Green	Light Green	Secondary Flow
30 000 - 99 999	•	Yellow-Green	Yellow-Green	Secondary Flow
100 000 - 299 999	•	Yellow	Yellow	Secondary Flow
300 000 - 999 999	•	Orange	Orange	Primary Flow
Over 1 000 000	•	Red	Red	Primary Flow

- Urban Core:** The centre of a small urban area or the central town of a large urban area.
- Urban Area:** Census Metropolitan Area (CMA) or Census Agglomeration (CA) as defined by the 1981 Census of Canada, or Census Subdivision (CSD) lying outside a CMA or CA with a concentration of population exceeding 10 000 in 1981.
- Urban Hinterland:** The region that is served by an urban area as indicated by strong migration ties to that urban area. See text for delineation criteria.
- Interurban Linkage:** Contacts and interactions between two urban centres as represented by the largest migration outflow (1976-1981) from an originating centre to the principal urban centre destination on basis of out-migrants. See text for explanation of primary and secondary flows.
- Migrants:** As defined by the 1981 Census "...movers who, on Census Day, were residing in a different CSD within Canada five years earlier..." (Statistics Canada, 1983).

SOURCES: Statistics Canada, 1982, 1982 Census of Canada, Census Metropolitan Areas and Census Agglomerations with Components, Catalogue 95-903, Ottawa.
 1982, 1981 Census of Canada, Census Subdivisions of 5 000 Population and Over, Catalogue 95-904, Ottawa.
 1981, 1981 Census of Canada, Mobility Statistics, Catalogue 92-907, Ottawa.
 1981, 1981 Census of Canada, Flows of Migrants Among Census Metropolitan Areas and Census Agglomerations, 1976-1981, Summary Table SP818E0.
 1981, 1981 Census of Canada, Flows of Migrants Between Each Pair of 5 725 Census Subdivisions, 1976-1981, Summary Table SP818D10.