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Census Agricultural Regions Boundary Files for the 2006 Census of Agriculture - Reference Guide



2006 Census of Agriculture



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2006 Census of Agriculture

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

What's new?

- A Digital Boundary File version is available for 2006.
- The hydrography (rivers and lakes) was removed from the files.

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1. About this guide

This guide describes the content, uses and technical specifications for the 2006 Census Agricultural Regions Boundary Files, and includes notes on the data quality and general methodology used to create them.

Technical specifications in Section 5 include system requirements, installation instructions, record layout, and item descriptions.

Geographic terms and concepts highlighted in **bold** in the text are described in the glossary. More details can be found in the *2006 Census Dictionary*, Catalogue No.92-566-XWE. Supplementary information is provided in the appendices.

This reference guide does not provide details on specific software packages that are available for use with the Census Agricultural Regions Boundary Files. Users are advised to contact the appropriate software vendor for information. Please contact your nearest Regional Reference Centre for further information.

This Reference Guide is based on the best information available at the time of its release. It in no way constitutes a warranty of the data in the event that users may observe characteristics that deviate from those stated in this document. All efforts have been made to ensure that the verification of this product has been thoroughly done, however, there is no guaranty that the data are 100% accurate.

2. Overview

The Census Agricultural Regions Boundary Files

The 2006 Census Agricultural Regions Boundary Files contain the boundaries of all 82 census agricultural regions (see the Glossary subsection for a definition) delineated for the 2006 Census of Agriculture.

The 2006 Census Agricultural Regions Boundary Files are available for download in two types: digital boundary file and **cartographic boundary file**.

The 2006 Census Agricultural Regions Boundary Files provide a framework for mapping and spatial analysis. The digital file depicts the full extent of the geographical areas, including the coastal water area. See Figure 2.1. The cartographic file depicts the geographical areas using only the major land mass of Canada and its coastal islands. See Figure 2.2. The files are available in three formats: ArcInfo® (.shp), MapInfo® (.tab) and Geography Markup Language (.gml).

Supplementary hydrographic layers are also available and provided by Geography Division. More details can be found in the *Boundary Files Reference Guide 2006 Census, Catalogue No. 92-160-GIE*. This 'water' layer can be used for additional reference purposes when mapping or displaying the boundaries in either the digital or cartographic boundary file.

Figure 2.1 Census Agricultural Regions Digital Boundary File, 2006



Figure 2.2 Census Agricultural Regions Cartographic Boundary File with coastline, 2006



Reference date

The **geographic reference date** is a date determined by Statistics Canada to finalize the geographic framework for which the census data will be collected, tabulated and reported. The geographic reference date for the 2006 Censuses of Population and Agriculture, and therefore for the geographic area boundaries in the Census Agricultural Regions Boundary Files, is January 1, 2006.

3. How to use this product

Purpose of the product

The 2006 Census Agricultural Regions Digital Boundary File portrays the boundaries used for the 2006 Census of Agriculture collection and dissemination activities and as such often extend as straight lines into bodies of water.

The 2006 Census Agricultural Regions Cartographic Boundary File was created to support the spatial analysis and thematic mapping of 2006 Census of Agriculture when realistic shorelines are required.

With the appropriate computer software, the CAR boundary files provide the framework for thematic mapping – particularly choropleth mapping. The shorelines were integrated with the boundaries to enable users to easily shade the land polygons. Geographic identifiers provide the linkage between the statistical data and the geographic area boundaries. The CAR boundary files are positionally consistent with the 2006 **Road Network File**, which can provide additional geographic context for mapping applications.

Using Census Agricultural Region Boundary Files with other boundary files

When considering how to use the Census Agricultural Regions Boundary Files, users should be aware of the compatibility of these files with other spatial information files. Some of the mapping products available are:

Agricultural Ecumene Census Division Digital and Cartographic Boundary Files

The Agricultural ecumene boundary files contain generalized ecumene boundaries. It is suitable for thematic mapping at a small-scale when displaying statistical data aggregated to the census division level.

The 2006 Agricultural Ecumene Census Division Cartographic Boundary File is not positionally consistent with the CAR cartographic boundary file. Users who wish to use the Agricultural Ecumene Census Division Cartographic Boundary File with the CAR cartographic boundary file should consider their positional differences. However, the 2006 Agricultural Ecumene Census Division Digital Boundary File is positionally consistent with the CAR digital boundary file.

Digital and Cartographic Boundary Files

The Geography Division of Statistics Canada has produced and disseminated a series of 12 digital and cartographic boundary file products. Each contains the boundaries relating to a standard geographic level (e.g., **census divisions**). In addition, each product includes a separate file containing supplementary hydrography that supports mapping inland water bodies (i.e., large inland lakes and double-line rivers). The CAR boundary files are positionally consistent with these files since they were all created from the same base.

In deciding which set of boundary files to use, one should consider what other geospatial data will be used in conjunction with the boundary files.

Limitations

The positional accuracy of the 2006 Census Agricultural Region Boundary Files does not support cadastral, surveying or engineering applications.

The CAR boundary files will not be precise if plotted at a larger scale than the scale of the source material used in their creation. In particular, the shorelines originally digitised at a scale of 1:1,000,000 (outside census metropolitan areas and census agglomerations) will not support large-scale mapping.

The CAR boundary files are recommended for regional scale mapping. Boundaries can be mapped at scales ranging from 1:1,000,000 to 1:5,000,000.

General Methodology

Creation of the boundaries for the Census Agricultural Regions Digital Boundary File

Geography Division's 2006 Census Consolidated Subdivisions Digital Boundary File of all 2,341 **census consolidated subdivisions** (CCSs) in Canada, served as the starting point for creating the CAR boundaries. In all provinces except Saskatchewan, census agricultural regions are defined as groups of one or more adjacent census divisions, while census divisions, in turn, are defined as groupings of CCSs. As a result, in these nine provinces the CAR boundaries were created by aggregating the polygons that formed individual census consolidated subdivisions, first to the census division level, and then up to the CAR level. However, in Saskatchewan CARs are not defined as groupings of census divisions but rather aggregations of census consolidated subdivisions directly. Therefore, in Saskatchewan the CAR boundaries were created by aggregating the polygons forming individual census consolidated subdivisions directly up to the CAR level.

Creation of the boundaries for the Census Agricultural Regions Cartographic Boundary File

The completed *Census Agricultural Regions Digital Boundary File* was the basis for creating the cartographic version. The shoreline from Geography Division's 2006 Provinces and Territories Cartographic Boundary File was used to clip the Census Agricultural Regions Digital Boundary File. The clipping process has a "cookie-cutter" like effect and the result is a CAR boundary file with shoreline.

Attribute information for the Census Agricultural Regions Boundary Files

Four main attributes were associated with the polygons in the CAR boundary files. The CAR name (CARname) and code (CARuid) were obtained from the Census Agricultural Regions Attribute File, which is updated prior to each Census of Agriculture with information from the provinces. The remaining two attributes, the province or territory code (PRuid) and Census of Agriculture standard geographic area code (AGuid), were both derived from the CARuid field.

Content

The Census Agricultural Regions Boundary Files for Canada contain the boundaries of all 82 census agricultural regions delineated for the 2006 Census of Agriculture. A census agricultural region is a sub-provincial geographic area used primarily by the Census of Agriculture for disseminating agricultural statistics. In most provinces, census agricultural regions usually comprise groups of adjacent census divisions. The exceptions are in Saskatchewan, where census agricultural regions are made up of groups of adjacent census consolidated subdivisions that do

not necessarily respect census division boundaries, and in Prince Edward Island where each of the three existing census divisions (counties) is treated as a census agricultural region for data dissemination purposes. Census agricultural regions are not defined in Yukon Territory, the Northwest Territories or Nunavut. In the Prairie provinces, census agricultural regions are commonly referred to as crop districts.

The CAR boundary files consist of polygons representing the census agricultural regions. In the cartographic version, there are many more polygons than census agricultural regions primarily because additional polygons are needed to represent islands. Every polygon encoded as a census agricultural region has a CARuid (a code to uniquely identify each census agricultural region) associated with it. The CAR boundary files are available at the national level only.

Comparison to the 2001 Census Agricultural Regions Boundary File

The 2006 Agricultural Regions Boundary Files are not compatible with the 2001 Agricultural Regions Boundary File.

Hydrography (consisting of the Great Lakes and selected large inland lakes) has been removed.

4. Data quality

Spatial data quality elements provide information on the fitness-for-use of a spatial database by describing why, when and how the data are created, and how accurate the data are. The elements include an overview describing the purpose and usage, as well as specific quality elements reporting on the lineage, positional accuracy, attribute accuracy, logical consistency and completeness. This information is provided to users for all spatial data products disseminated for the census.

Lineage

Describes the history of the spatial data, including descriptions of the source material from which the data were derived, and the methods of derivation. It also contains the dates of the source material, and all transformations involved in producing the final digital files or map products.

The 2006 CAR boundary files were created using spatial data from the 2006 Census Consolidated Subdivisions Digital Boundary File and 2006 Province and Territories Cartographic Boundary File. These boundary files are two of 12 boundary file products developed using the following procedures:

Creation of the 2006 Digital Boundary Files

The Spatial Data Infrastructure was used to generate the 2006 Digital Boundary Files by aggregating polygons using geographic codes. For example, to create the digital boundary files for the provinces and territories, all the polygonal units within the Spatial Data Infrastructure with the same relationship to a province or territory were aggregated to form the polygon(s) that represent that province or territory. Additional information (e.g., name) for each geographic area was incorporated into the product from the Spatial Data Infrastructure.

Creation of the 2006 Cartographic Boundary Files

The creation of the 2006 Cartographic Boundary File used the 2006 Digital Boundary Files and a set of hydrographic features from the National Geographic Database. The hydrographic features used included coastal features (e.g., oceans, bays) and the Great Lakes, and the St. Lawrence River. These data were used to remove from the digital boundary files that portion of the geographical area that is within these major coastal water features.

Additional formatting

The files were transformed from Lambert conformal conic projection into latitude / longitude coordinates. Finally, the files were verified, translated into French and English versions and appropriately labelled.

The files were converted into three output formats (ArcInfo[®] [.shp], Geography Markup Language [.gml] and MapInfo[®] [.tab]).

Creation of the coastal layer

The coastal layer was created by selecting water features exterior to Canada's land mass from the National Geographic Database's hydrographic reference layers. These reference data were sourced from the National Topographic Data Base (1:50,000 and the 1:250,000 maps) and the Digital Chart of the World. This included polygon features forming the Pacific, Atlantic and Arctic oceans, as well as the Beaufort and Labrador seas and all related channels, straits, passages, inlets and bays including Hudson Bay and James Bay. In addition, features forming the Great Lakes, Lake of the Woods and the St. Lawrence Seaway were also included.

The coastal layer was then generalized by removing all islands smaller than 100,000 square metres except when the islands accounted for the only land area for geographic areas or when they were intersected by road arcs found on the road network file.

Creation of the inland water layer

The inland water layer was created by selecting water features from the National Geographic Database's hydrographic reference layers. These reference data were sourced from the National Topographic Data Base (1:50,000 and the 1:250,000 maps) and the Digital Chart of the World. Each feature was assigned a rank based on its size and/or cultural importance. The largest and most important features have lower rank values. These ranks can be used to select and format features for map display at different scales.

Positional accuracy

Refers to the absolute and relative accuracy of the positions of geographic features. Absolute accuracy is the closeness of the coordinate values in a dataset to values accepted as or being true. Relative accuracy is the closeness of the relative positions of features to their respective relative positions accepted as or being true. Descriptions of positional accuracy include the quality of the final file or product after all transformations.

The positional accuracy of the CAR boundary files are based on the positional accuracy of the source material used in its production.

The source boundaries are derived from the Spatial Data Infrastructure. The data in the Spatial Data Infrastructure are stored in double precision. This precision allows features that are next to each other on the ground to be placed in the correct position on the map, relative to each other, without overlap. However, the absolute positional accuracy of the features in the database varies depending on the source of the features.

The Spatial Data Infrastructure is not a Global Positioning System (GPS). However, every possible attempt is made to ensure that the geographic area boundaries maintained in the Spatial Data Infrastructure respect the limits of the administrative entities that they represent (e.g., census division and census subdivision) or on which they are based (e.g., census metropolitan area or census agglomeration). The positional accuracy of these limits is dependent upon source materials used by Statistics Canada to identify the location of limits. In addition, due to the importance placed on relative positional accuracy, the positional accuracy of other geographic data (e.g., road network data and hydrographic data) that are stored within the Spatial Data Infrastructure is considered when positioning the limits of the geographic areas.

Attribute accuracy

Refers to the accuracy of the quantitative and qualitative information attached to each feature (such as population for an urban area, street name, census subdivision name and code).

The attribute data associated with the polygons in the CAR boundary file was verified against the data in the Census Agricultural Regions Attribute File.

Logical consistency

Describes the fidelity of relationships encoded in the data structure of the digital spatial data.

Every polygon was verified to have a valid identifier for the census agricultural region: the CARuid. Every CARuid in the CAR boundary files was verified to be in the CAR Attribute File and have the correct corresponding AGuid (a code that uniquely identifies a CAR and provides a link to the data in 2006 Census of Agriculture data tables).

Completeness

Refers to the degree to which geographic features, their attributes and their relationships are included or omitted in a dataset. It also includes information on selection criteria, definitions used, and other relevant mapping rules.

The number of census agricultural regions as well as their unique identifiers were verified against the information in the CAR Attribute File.

5. Technical specifications

Software formats

The 2006 Census Agricultural Regions Boundary Files are available for download from the Statistics Canada website in the following formats:

- ArcInfo® shapefile format version 9.0
File extension: .shp
- MapInfo® format version 8.0
File extension: .tab
- Geography Markup Language (GML) version 2.1.2
File extension: .gml

Installation instructions

The ArcInfo®, MapInfo® and GML files are compressed into WinZip® files (file extension .zip).

An additional template (.tem) file is included with the GML files for use with the Java Unified Mapping Platform (JUMP) free GIS data viewer.

The geographic area names in the CAR boundary files contain accented characters. These characters can be seen in UNIX and Windows® versions of ArcInfo® and MapInfo®. They were tested on desktop versions of ArcGIS® 9.0 and MapInfo® 8.0 and 8.5.

Geographic representation

The 2006 Census Agricultural Regions Boundary Files are available for free on the Statistics Canada website in the following geographic representation:

Datum: NAD 83
Coordinates: Latitude / Longitude

To ensure calculations are relevant (e.g., to calculate land area), it is recommended that the latitude/longitude coordinates be transformed to an appropriate map projection.

File naming conventions

The conventions used are:

ArcInfo® shapefile	gcar000a07a_e.shp, gcar000b07a_e.shp
MapInfo® TAB file	gcar000a07m_e.tab, gcar000b07m_e.tab
Geography Markup Language (GML) file	gcar000a07g_e.gml, gcar000b07g_e.gml

where “g” refers to geographic representation, “car” indicates that it is the census agricultural regions file, “000” is the three digit code identifying it as a national file, “a” indicates it is a digital boundary file while “b” indicates it is a cartographic boundary file, “07” is the date stamp for the year of release, “m” or “a” or “g” indicates the software and “e” or “f” indicates the language of the file.

File names and sizes

	ARC/INFO®		MapInfo®		Geography Markup Language	
	File name	Compressed file size (MB)	File name	Compressed file size (MB)	File name	Compressed file size (MB)
CAR digital boundary file	gcar000a07a_e	7.63	gcar000a07m_e	4.46	gcar000a07g_e	10.03
CAR cartographic boundary file	gcar000b07a_e	24.0	gcar000b07m_e	13.44	gcar000b07g_e	31.23

Record layout and item description

Census Agricultural Regions record layout:

The following table shows the format of the attributes contained on the boundary files.

Attribute name	Data type	Description
FID	Object ID (4)	Specific to ArcInfo®
Shape	Geometry	Specific to ArcInfo®
CARuid	char (4)	Uniquely identifies a census agricultural region (composed of the 2-digit province/territory code and the 2-digit census agricultural region code).
CARname	char (50)	The official census agricultural region name.
PRuid	char (2)	Uniquely identifies a province or territory.
AGuid	char (9)	Uniquely identifies any of the standard geographic areas disseminated by the Census of Agriculture (composed of the 2-digit province or territory code, the 2-digit census agricultural region code, the 2-digit census division code and the 3-digit census consolidated subdivision code).

6. Glossary

Adjusted Counts

Adjusted counts refer to previous census population and dwelling counts that have been adjusted (i.e., recompiled) to reflect current census boundaries (such as when a boundary change occurs between two censuses).

Block

A block is an area bounded on all sides by roads and/or boundaries of standard geographic areas. Blocks cover all the territory of Canada. The block is the smallest geographic area for which population and dwelling counts are disseminated.

Block-face

A block-face is one side of a street between two consecutive features intersecting that street. The features can be other streets, boundaries of standard geographic areas, or limits of map tiles. Block-faces are used for generating block-face representative points, which in turn are used for geocoding and census data extraction when the street and address information is available.

Cartographic Boundary Files

Cartographic Boundary Files (CBF) contain boundaries of standard geographic areas, along with shorelines and lakes, at a level of detail appropriate for small-scale mapping.

Census Agricultural Region

Census agricultural regions (CAR) are composed of groups of adjacent census divisions. In Saskatchewan, census agricultural regions are made up of groups of adjacent census consolidated subdivisions, but these groups do not necessarily respect census division boundaries.

Census Consolidated Subdivision

A census consolidated subdivision (CCS) is a grouping of adjacent census subdivisions. Generally, the smaller, more urban census subdivisions (towns, villages, etc.) are combined with the surrounding larger, more rural census subdivision, in order to create a geographic level between the census subdivision and the census division.

Census Division

Census division (CD) is the general term for provincially legislated areas (such as county, municipalité régionale de comté and regional district) or their equivalents. Census divisions are intermediate geographic areas between the province level and the municipality (census subdivision).

Census Metropolitan Area and Census Agglomeration

A census metropolitan area (CMA) or a census agglomeration (CA) is formed by one or more adjacent municipalities centred on a large urban area (known as the **urban core**). The census population count of the urban core must be at least 10,000 to form a census agglomeration and at least 100,000 to form a census metropolitan area. To be included in the CMA or CA, other adjacent municipalities must have a high degree of integration with the central urban area, as measured by commuting flows derived from census place of work data.

If the population of the urban core of a CA declines below 10,000, the CA is retired. However, once an area becomes a CMA, it is retained as a CMA even if the population of its urban core population declines below 100,000. The urban areas that are located in the CMA or CA but are not contiguous to the urban core are called the **urban fringe**. Rural areas in the CMA or CA are called the **rural fringe**.

When a CA has an urban core of at least 50,000 based on census counts, it is subdivided into census tracts. Census tracts are maintained for the CA even if the population of the urban core subsequently falls below 50,000. All CMAs are subdivided into census tracts.

Census Metropolitan Area and Census Agglomeration Influenced Zone

The census metropolitan area and census agglomeration influenced zone (MIZ) is a concept that geographically differentiates the area of Canada outside census metropolitan areas (CMAs) and census agglomerations (CAs). Census subdivisions outside CMAs and CAs are assigned to one of four categories according to the degree of influence (strong, moderate, weak or no influence) that the CMAs and/or CAs have on them.

Census subdivisions (CSDs) are assigned to a MIZ category based on the percentage of their resident employed labour force that has a place of work in the urban core(s) of CMAs or CAs. CSDs with the same degree of influence tend to be clustered. The zones they form around CMAs and CAs progress through the categories from “strong” to “no” influence as distance from the CMAs and CAs increases.

Census Subdivision

Census subdivision (CSD) is the general term for municipalities (as determined by provincial legislation) or areas deemed to be their equivalents (for example, Indian reserves, Indian settlements and unorganized territories) used for statistical reporting purposes.

Census Tract

Census tracts (CTs) are small, relatively stable geographic areas that usually have a population of 2,500 to 8,000. They are located in census metropolitan areas (CMAs) and in census agglomerations (CAs) with an urban core population of 50,000 or more in the previous census. A committee of local specialists (for example, planners, educators and health and social workers) initially delineates CTs in conjunction with Statistics Canada. Once a CMA or CA has been subdivided into census tracts, the census tracts are maintained even if the urban core population subsequently declines below 50,000.

Coordinate System

A coordinate system is a reference system based on mathematical rules for specifying positions (locations) on the surface of the earth. The coordinate values can be spherical (latitude and longitude) or planar (such as the Universal Transverse Mercator).

The Cartographic Boundary Files, the Road Network Files and the representative points are disseminated in latitude/longitude coordinates.

Datum

A datum is a geodetic reference system that specifies the size and shape of the earth, and the base point from which the latitude and longitude of all other points on the earth’s surface are referenced.

The spatial data disseminated for the 2006 Census are based on the North American Datum of 1983 (NAD83).

Designated Place

A designated place (DPL) is normally a small community or settlement that does not meet the criteria established by Statistics Canada to be a census subdivision (an area with municipal status) or an urban area.

Designated places are created by provinces and territories, in co-operation with Statistics Canada, to provide data for submunicipal areas.

Dissemination Area

The dissemination area (DA) is a small, relatively stable geographic unit composed of one or more blocks. It is the smallest standard geographic area for which all census data are disseminated. DAs cover all the territory of Canada.

Economic Region

An economic region (ER) is a grouping of complete **census divisions** (with one exception in Ontario) created as a standard geographic unit for analysis of regional economic activity.

Ecumene

Ecumene is a term used by geographers to mean inhabited land. It generally refers to land where people have made their permanent home, and to all work areas that are considered occupied and used for agricultural or any other economic purposes. Thus, there can be various types of ecumenes, each having its own unique characteristics (population ecumene, agricultural ecumene, industrial ecumene, etc.).

Enumeration Area

An enumeration area (EA) is the geographic area canvassed by one census representative. An EA is composed of one or more adjacent blocks. EAs cover all the territory of Canada.

Enumeration areas are only used for census data collection. The dissemination area (DA) replaces the EA as a basic unit for dissemination.

Federal Electoral District

A federal electoral district (FED) is an area represented by a member of the House of Commons. The federal electoral district boundaries used for the 2006 Census are based on the 2003 Representation Order.

Geocoding

Geocoding is the process of assigning geographic identifiers (codes) to map features and data records. The resulting geocodes permit data to be linked geographically.

Households and postal codes are linked to block-face representative points when the street and address information is available; otherwise, they are linked to block representative points.

Geographic Code

A geographic code is a unique number used to identify and access standard geographic areas for the purposes of data storage, retrieval and display.

Geographic Reference Date

The geographic reference date is a date determined by Statistics Canada for the purpose of finalizing the geographic framework for which census data will be collected, tabulated and reported. For the 2006 Census, the geographic reference date is January 1, 2006.

Land Area

Land area is the area in square kilometres of the land-based portions of standard geographic areas. The land area measurements are unofficial and are provided for the sole purpose of calculating population density.

Locality

Locality (LOC) refers to the historical place names of former census subdivisions (municipalities), former designated places and former urban areas, as well as to the names of other entities, such as neighbourhoods, post offices, communities and unincorporated places.

Map Projection

A map projection is the process of transforming and representing positions from the earth's three dimensional curved surface to a two-dimensional (flat) surface. The process is accomplished by a direct geometric projection or by a mathematically derived transformation.

The Lambert Conformal Conic map projection is widely used for general maps of Canada at small scales and is the most common map projection used at Statistics Canada.

National Geographic Base

The National Geographic Base (NGB) is a new database that contains roads and boundaries of standard geographic areas in one integrated layer with other physical and cultural features (such as hydrography, railroads and power transmission lines) stored as separate layers.

The NGB is an internal maintenance database that is not disseminated. It supports a wide range of census operations, such as geocoding, updating the road network and address ranges, supporting the block program and delineating the boundaries of standard geographic areas (including the automated delineation of enumeration areas, urban areas and dissemination areas). As well, the NGB is the source for generating many geography products for the 2006 Census, such as reference maps and Cartographic Boundary Files.

Place Name

Place name (PN) refers to the set of names that includes current census subdivisions (municipalities), current designated places and current urban areas, as well as the names of localities.

Population Density

Population density is the number of persons per square kilometre.

Postal Code

The postal code is a six-character code defined and maintained by Canada Post Corporation for the purpose of sorting and delivering mail.

Province or Territory

Province and territory refer to the major political units of Canada. From a statistical point of view, province and territory are basic areas for which data are tabulated. Canada is divided into ten provinces and three territories.

Reference Map

A reference map shows the location of the geographic areas for which census data are tabulated and disseminated. The maps display the boundaries, names and codes of standard geographic areas, as well as major cultural and physical features, such as roads, railroads, coastlines, rivers and lakes.

Representative Point

A representative point is a single point that represents a linear or areal feature. The point is centrally located along the linear feature or centrally within the areal feature.

Representative points are generated for block-faces, blocks, enumeration areas, dissemination areas, census subdivisions and designated places. The block-face and block representative points support the geocoding of households and postal codes.

Road Network Files

The Road Network Files (RNFs) provide national coverage of roads, province/territory boundaries and other visible features such as hydrography, as well as attribute information (for example, street names and address ranges for streets with assigned addresses). The RNFs replace the Street Network Files (SNFs), which were a similar product previously available only for the large urban centres of Canada.

Rural Area

Rural areas include all territory lying outside urban areas. Taken together, urban and rural areas cover all of Canada.

Rural population includes all population living in the rural fringes of census metropolitan areas (CMAs) and census agglomerations (CAs), as well as population living in rural areas outside CMAs and CAs.

Spatial Data Quality Elements

Spatial data quality elements provide information on the fitness-for-use of a spatial database by describing why, when and how the data are created, and how accurate the data are. The elements include an overview describing the purpose and usage, as well as specific quality elements reporting on the lineage, positional accuracy, attribute accuracy, logical consistency and completeness. This information is provided to users for all spatial data products disseminated for the census.

Standard Geographical Classification

The Standard Geographical Classification (SGC) is Statistics Canada's official classification for three types of geographic areas: **provinces and territories**, **census divisions** (CDs) and **census subdivisions** (CSDs). The SGC provides unique numeric identification (codes) for these hierarchically related geographic areas.

Statistical Area Classification

The Statistical Area Classification (SAC) groups census subdivisions according to whether they are a component of a census metropolitan area, a census agglomeration, a census metropolitan area and census agglomeration influenced zone (strong MIZ, moderate MIZ, weak MIZ or no MIZ), or the territories (Northwest Territories, Yukon Territory and Nunavut). The SAC is used for data dissemination purposes.

Thematic Map

A thematic map shows the spatial distribution of one or more specific data themes for standard geographic areas. The map may be qualitative in nature (e.g., predominant farm types) or quantitative (e.g., percentage population change).

Urban Area

An urban area (UA) has a minimum population concentration of 1,000 persons and a population density of at least 400 persons per square kilometre, based on the current census population count. All territory outside urban areas is classified as rural. Taken together, urban and rural areas cover all of Canada.

Urban population includes all population living in the urban cores, secondary urban cores and urban fringes of census metropolitan areas (CMAs) and census agglomerations (CAs), as well as the population living in urban areas outside CMAs and CAs.

Urban Core, Urban Fringe and Rural Fringe

Urban core, urban fringe and rural fringe distinguish between central and peripheral urban and rural areas within a census metropolitan area (CMA) or census agglomeration (CA).

Urban core is a large urban area around which a CMA or a CA is delineated. The urban core must have a population (based on the previous census) of at least 100,000 persons in the case of a CMA, or between 10,000 and 99,999 persons in the case of a CA.

Urban fringe includes all small urban areas (with less than 10,000 population) that are located within a CMA or CA but are not contiguous with the urban core of the CMA or CA.

Rural fringe comprises all territory that is located within a CMA or CA but is not classified as an urban core or an urban fringe.

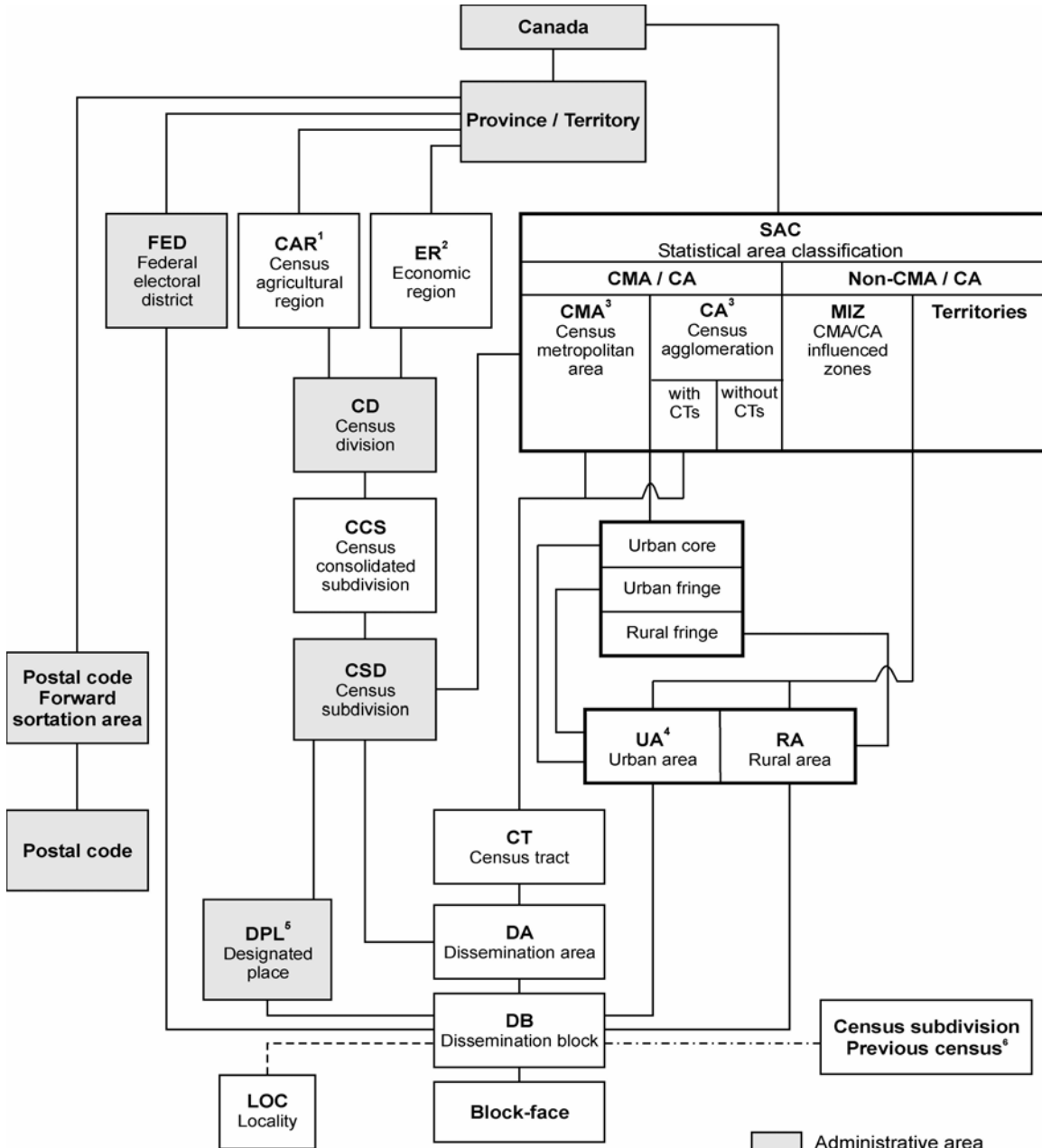
Urban Population Size Group

Urban population size group refers to the classification used in standard tabulations where urban areas are distributed according to the following predetermined size groups, based on the current census population.

1,000	to	2,499
2,500	to	4,999
5,000	to	9,999
10,000	to	24,999
25,000	to	49,999
50,000	to	99,999
100,000	to	249,999
250,000	to	499,999
500,000	to	999,999
1,000,000	and over	

Tabulations are not limited to these predetermined population size groups; the census database has the capability of tabulating data according to any user-defined population size group.

Appendix A: Hierarchy of standard geographic units for dissemination, 2006 Census



1. Census agricultural regions in Saskatchewan are composed of census consolidated subdivisions.
2. Economic regions are composed of complete census divisions except for one CD in Ontario.
3. One CMA and three CAs cross provincial boundaries.
4. Five 2001 UAs cross provincial boundaries.
5. Designated places respect CSD boundaries, but do not cover the total area of CSDs.
6. For the 2006 Census, a best fit linkage is created between the 2001 CSDs and 2006 DBs to facilitate historical data retrieval.

- Administrative area
- Statistical area
- Linkage using point-in-polygon process
- Best fit linkage

Appendix B: Spatial file naming conventions

For the 2006 Census, spatial product file names for files disseminated to clients follow a spatial file naming convention. The geographic area and code, file type, date stamp, software type and language will be embedded within the name. Standardizing the names of the files should facilitate the storage of compressed files, all having the extension .zip.

Each file name is 13 characters in length, which meets the requirements of ARC/INFO[®]'s and MapInfo[®]'s limitations for file name sizes. All alphabetic characters are in lower case to maintain consistency.

First character: projection of file

g if projection is Geographic (latitude/longitude)
l if projection is Lambert Conformal Conic

Next three characters: primary geographic area of file

Table C.1 Spatial file naming conventions — geographic area of file

Geographic area / product	English file	French file
National / provincial	pr_	pr_
Federal electoral district	fed	cef
Economic region	er_	re_
Census division	cd_	dr_
Census subdivision	csd	sdr
Census agricultural region	car	rar
Census consolidated subdivision	ccs	sru
Census metropolitan area / census agglomeration	ema	rmr
Census tract	ct_	sr_
Urban area	ua_	ru_
Designated place	dpl	ld_
Dissemination area	da_	ad_
Dissemination block	db_	id_
Population ecumene	ecu	ecu
Agricultural ecumene	eca	eca
Road network file	rnf	frr
International boundary files (part of mainland U.S.A. and Alaska as well as Greenland)	int	int
Supporting hydrography (Great Lakes, St. Lawrence River, oceans, etc.)	hy_	hy_

Next three numbers: geographic code of coverage

Table C.2 Spatial file naming conventions — geographic code of coverage

National coverage	Provincial and territorial coverages	
000	010	Newfoundland and Labrador
	011	Prince Edward Island
	012	Nova Scotia
	013	New Brunswick
	024	Quebec
	035	Ontario
	046	Manitoba
	047	Saskatchewan
	048	Alberta
	059	British Columbia
	060	Yukon
	061	Northwest Territories
	062	Nunavut

Next character: file type

- a if digital boundary file, detailed coverage for large-scale mapping excluding hydrographic coverage
- b if cartographic boundary file, detailed coverage for small-scale mapping
- c if detailed interior lakes hydrographic coverage (polygon)
- d if detailed interior rivers hydrographic coverage (line)
- e ecumene
- f if detailed interior lakes hydrographic coverage – closure lines (line)
- g cartographic boundary file, generalized for desktop mapping
- h additional cartographic international boundary coverage and hydrographic coverage of Great Lakes, St. Lawrence River and surrounding oceans
- l if detailed interior islands (part of hydrographic coverage (polygon))
- r road network files (RNFs)

Next two numbers: dissemination year (date stamp for versioning)

- 05 if disseminated in 2005
- 06 if disseminated in 2006

Next character: file format

- a ArcInfo[®] shapefile (.shp)
- m MapInfo[®] TAB file (.tab)
- g Geography Markup Language (GML) file (.gml)

Final two characters: language

- _e English
- _f French

Examples of the use of the file naming conventions

- The 2006 Census Subdivision Digital Boundary File for Newfoundland and Labrador with English attributes in GML format: gcsd010a06g_e.zip
- The 2006 Economic Region Boundary File for Alberta with French attributes in MapInfo format: ger_048b06m_f.zip

Appendix C: Geography Markup Language (GML)

Scope

The Geography Markup Language (GML) is an XML encoding for the modelling, transport and storage of geographic information including both the spatial and non-spatial properties of geographic features. This specification defines the XML Schema syntax, mechanisms, and conventions that:

- Provide an open, vendor-neutral framework for the definition of geospatial application schemas and objects;
- Allow profiles that support proper subsets of GML framework descriptive capabilities;
- Support the description of geospatial application schemas for specialized domains and information communities;
- Enable the creation and maintenance of linked geographic application schemas and datasets;
- Support the storage and transport of application schemas and datasets;
- Increase the ability of organizations to share geographic application schemas and the information they describe.

United States Bureau of Census (USBC) Partnership – TIGER/GML

Statistics Canada has committed to working with the United States Bureau of the Census (USBC) to ensure cross-border consistency in our products, and foster the development and application of a common, North American data model.

Like the United Kingdom Ordnance Survey and the United States Bureau of the Census, Statistics Canada has chosen to disseminate data in the Open Geospatial Consortium standard Geography Markup Language (GML) format. This standard allows organisations to achieve maximum compatibility not only of format but eventually of content. In partnership with USBC, Statistics Canada is committed to providing a harmonized North American street network file by 2008. This release of the Digital Boundary Files and Digital Cartographic Files, along with the Road Network File is the first step in delivering a harmonized international street network by 2008.

Example of 2006 Digital Boundary File dataset in GML format

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<wfs:FeatureCollection

  xmlns:c2006="http://geodepot.statcan.ca/2006"
  xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:gml="http://www.opengis.net/gml"
  xmlns:wfs="http://www.opengis.net/wfs"
  xmlns:xlink="http://www.w3.org/1999/xlink"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://geodepot.statcan.ca/2006">
<gml:boundedBy>
<gml:Box srsName="">
  <gml:coordinates>
```

Example of 2006 Digital Boundary File dataset in GML format, continued

```

-141.0180731504476,59.99999992446111
-123.78932479367023,69.68942753358266
</gml:coordinates>
  </gml:Box>
</gml:boundedBy>
<gml:featureMember>
  <CensusSubdivision fid="C2006_CN_6001003">
    <csdUid>6001003</csdUid>
    <csdname>Watson Lake</csdname>
    <csdtype>T</csdtype>
    <prUid>60</prUid>
    <prname>Yukon Territory / Territoire du Yukon</prname>
    <cdUid>6001</cdUid>
    <cdname>Yukon</cdname>
    <cdtype>TER</cdtype>
    <cmacaUid/>
    <sactype>8</sactype>
    <erUid>6010</erUid>
    <ername>Yukon Territory / Territoire du Yukon</ername>
    <officialLimit>
      <gml:MultiPolygon srsName="EPSG:4269">
        <gml:polygonMember>
          <gml:Polygon>
            <gml:outerBoundaryIs>
              <gml:LinearRing>
                <gml:coordinates decimal="." cs="," ts=" ">
                  -128.72455401633565,60.070186461318286
                  -128.7233706592442,60.06362661624902
                  ...
                  -128.7246792419692,60.070880147625736
                  -128.72455401633565,60.070186461318286
                </gml:coordinates>
              </gml:LinearRing>
            </gml:outerBoundaryIs>
          </gml:Polygon>
        </gml:polygonMember>
      </gml:MultiPolygon>
    </officialLimit>
  </CensusSubdivision>
</gml:featureMember>
<gml:featureMember>
  <CensusSubdivision fid="C2006_CN_6001004">
    <csdUid>6001004</csdUid>
    <csdname>Faro</csdname>
    ... etc ....
  </CensusSubdivision>
</gml:featureMember>
</wfs:FeatureCollection>

```