Catalogue no. 92-151-G
ISBN 978-0-660-05264-9

Geographic Attribute File, Reference Guide

Release date: February 8, 2017

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The following symbols are used in Statistics Canada publications:

. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

Published by authority of the Minister responsible for Statistics Canada

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Cette publication est aussi disponible en français.

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What's new?

- The 2016 Census *Geographic Attribute File* is now available in Comma Separated Value format (.csv), as well as in Excel format (.xlsx) in addition to ASCII format (.txt).
- Dissemination block (DB)
  - The DB code is changed from two to three digits.
  - The full DB unique identifier is increased from 10 to 11 for the 2016 Census
- Aggregate dissemination area (ADA)
  In preparation for the 2016 Census, Statistics Canada has created a new subprovincial census dissemination geography called 'aggregate dissemination area' (ADA). The intent of the ADA geography is to ensure the availability of census data, where possible, across all regions of Canada. For more information on the ADA, refer to the aggregate dissemination area (ADA): a new census dissemination geographic area and to the aggregate dissemination area (ADA) definition from the *Dictionary, Census of Population*, 2016.

  Two new variables were added in the *Geographic Attribute File*:
  - ADAuid – uniquely identifies an aggregate dissemination area (composed of the two-digit province/territory code followed by the two-digit census division code then followed by the four-digit ADA code)
  - ADAcode – a four-digit aggregate dissemination area code that uniquely identifies an aggregate dissemination area.

1. About this guide

This reference guide is intended for users of the 2016 Census *Geographic Attribute File*. The guide provides an overview of the file, the general methodology used to create it, and important technical information for users.

A record layout is provided in the Technical specifications section.

The Data quality Section provides information for users to evaluate the suitability of the data for a particular application.

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2. Overview

The 2016 Census *Geographic Attribute File* contains information at the dissemination block level, based on 2016 Census standard geographic areas. The data available include population counts, dwelling counts and land area. In addition, the 2016 Census Geographic Attribute File contains higher level standard geographic codes, names and, where applicable, types and classes. Data for higher level standard geographic areas can be derived by aggregating dissemination block-level data. The dissemination area representative point coordinates are also included in the 2016 Census *Geographic Attribute File*.

This version of the *Geographic Attribute File* is a dissemination block (DB)-level dataset which also includes data for the following 2016 Census standard geographic areas:

- province and territory (PR)
- economic region (ER)
- census division (CD)
- census consolidated subdivision (CCS)
- census subdivision (CSD)
- designated place (DPL)
- federal electoral district (FED) (2013 Representation Order)
- census metropolitan area (CMA), census agglomeration (CA) and census metropolitan influenced zone (MIZ)
- census tract (CT)
- population centre (POPCTR) and rural area (RA)
- aggregate dissemination area (ADA)
- dissemination area (DA)

How to cite this guide

Geographic Attribute File, Reference Guide, 2016 Census – Statistics Canada Catalogue no. 92-151-G.

How to cite this product

Geographic Attribute File, 2016 Census – Statistics Canada Catalogue no. 92-151-X.

3. About this product

Purpose of the product

The 2016 Census *Geographic Attribute File* is a dataset at the dissemination block level that also contains the complete set of 2016 Census geographic areas, their attributes and population and dwelling counts. The purpose of the file is to provide users the ability to aggregate the dissemination blocks to all geographic levels, i.e., the complete geographic hierarchy.

Definitions and concepts

Geographic terms and concepts are briefly defined in the *Dictionary, Census of Population, 2016* (Catalogue no. 98-301-X) (www5.statcan.gc.ca/olc-cel/olc.action?objId=98-301-X&objType=2&lang=en&limit=0).

The dissemination block, the basic geographic level used to create the *Geographic Attribute File*, is an area bounded on all sides by roads and/or boundary of standard geographic areas. The dissemination block is the smallest standard geographic area for which census population and dwelling count data are available.

Content

The 2016 Census *Geographic Attribute File* contains all the 2016 Census dissemination blocks and their selected attributes, such as population and dwelling counts, land area, standard geographic areas' unique identifiers and the corresponding dissemination areas' representative point coordinates.

Geographic unique identifiers

Geographic unique identifiers consist of a set of unique numbers that are used to identify and access individual 2016 Census standard geographic areas for the purpose of data storage, retrieval and display.

The systematic assignment of numeric codes to provinces and territories, census divisions and census subdivisions is described within the Standard Geographical Classification. This classification system is a hierarchical coding system that provides a unique identifier for each level within the geographic hierarchy. This coding system is developed by Statistics Canada and approved by provincial authorities. More details can be found in the *Standard Geographical Classification (SGC), volume I – Statistical Area Classification – Variants of SGC* (Catalogue no. 12-571-X) (www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=12-571-X).

Census consolidated subdivision unique identifiers are derived from the component census subdivisions. Census consolidated subdivision unique identifiers coincide with the census subdivision component with the largest land area within a census consolidated subdivision.

The source of the geographic unique identifiers of federal electoral districts is the 2013 Representation Order, Elections Canada. All other geographic unique identifiers are developed by Statistics Canada.

Within the 2016 Census *Geographic Attribute File*, geographic unique identifiers are a concatenation of geographic codes that uniquely identify 2016 Census standard geographic areas. For example, each dissemination area is assigned a four-digit code that is unique within a census division. In order to uniquely identify each dissemination area, the four-digit dissemination area code is preceded by the two-digit province or territory code and the two-digit census division code. This eight-digit concatenated code is referred to as the dissemination area unique identifier.

Hierarchy of standard geographic areas

The 2016 Census *Geographic Attribute File* includes population centres as parts of provinces. For the 2016 Census, there are five population centres that cross provincial boundaries:

- Campbellton (New Brunswick/Quebec)
- Hawkesbury (Quebec/Ontario)
- Ottawa–Gatineau (Quebec/Ontario)
- Flin Flon (Manitoba/Saskatchewan)
- Lloydminster (Saskatchewan/Alberta)

If users of the 2016 Census *Geographic Attribute File* generate a list of all population centres located in the province of Manitoba, for example, only the Manitoba portion of the Flin Flon population centre will be included on the list. The portion of the Flin Flon population centre located in the province of Saskatchewan will be excluded.

The 2016 Census *Geographic Attribute File* also includes census metropolitan areas and census agglomerations as parts of provinces. For the 2016 Census, there is one census metropolitan area and three census agglomerations that cross provincial boundaries:

- Census agglomeration of Campbellton (New Brunswick/Quebec)
- Census agglomeration of Hawkesbury (Quebec/Ontario)
- Census metropolitan area of Ottawa–Gatineau (Quebec/Ontario)
- Census agglomeration of Lloydminster (Saskatchewan/Alberta)

If users of the 2016 Census *Geographic Attribute File* generate a list of all census agglomerations located in the province of New Brunswick, for example, only the New Brunswick portion of the Campbellton census agglomeration will be included on the list. The portion of the Campbellton census agglomeration located in the province of Quebec will be excluded.

2016 Census population and private dwellings

The population and dwelling counts contained within the *Geographic Attribute File* are from the 2016 Census. The counts for a particular geographic area represent the number of people whose usual place of residence is in that area, regardless of where they happened to be on census day, May 10, 2016.

2016 Census land area

Land area is the area in square kilometres of the land-based portions of 2016 Census standard geographic areas. The land area data contained within the 2016 Census *Geographic Attribute File* may or may not be consistent with land area data provided by other sources. Land area is calculated using ArcGIS® software for the sole purpose of calculating population density.

The data are derived from the Spatial Data Infrastructure (SDI), including selected hydrographic polygon layers. The Lambert conformal conic projection is transformed to the Albers equal-area conic projection, since the property of equal area is appropriate for calculating land area. The same projection parameters (two standard parallels, central meridian and latitude of projection origin) are used for each province or territory.

Land area data for 2016 Census standard geographic areas reflect the boundaries in effect on January 1, 2016 (the geographic reference date for the 2016 Census of Canada).

2016 Census incompletely enumerated Indian reserves and Indian settlements

In 2016, there were a total of 14 Indian reserves and Indian settlements that were incompletely enumerated. For these reserves and settlements, dwelling enumeration was either not permitted or was interrupted before it could be completed.

This represents a decrease compared to the 31 Indian reserves and Indian settlements that were incompletely enumerated in the 2011 Census. Note that in 2011, of the 31 incompletely enumerated Indian reserves and Indian settlements, 13 were not enumerated as a result of forest fires in Northern Ontario at the time of census collection. In 2016, there were no Indian reserves or Indian settlements that were not enumerated due to a natural disaster.

The 2016 Census population and dwelling counts are not available for the 14 incompletely enumerated Indian reserves and Indian settlements, and are not included in 2016 Census tabulations. Data for geographic areas containing one or more of these reserves and settlements are noted accordingly. Because of the missing data, users are cautioned that for the affected geographic areas, comparisons (e.g., percentage change) between 2011 and 2016 may not be precise. The impact of the missing data for higher-level geographic areas (Canada, provinces and territories, census metropolitan areas and census agglomerations) is very small. However, the impact can be significant for lower-level geographic areas (e.g., census divisions), where the incompletely enumerated Indian reserves and Indian settlements account for a higher proportion of the population. This is especially true for lower-level geographic areas where a particular Indian reserve or Indian settlement was incompletely enumerated for the 2016 Census and enumerated for the 2011 Census and vice versa.

Positional data

The 2016 Census *Geographic Attribute File* contains the representative point coordinates for the dissemination areas, weighted by population data. The representative point coordinates were projected in Lambert conformal conic projection (NAD83).

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.

The 2016 Census *Geographic Attribute File* representative point coordinates are in the following geographic representation:

Datum: NAD83
Coordinates: Lambert conformal conic projection

The geographic coordinate system is the primary locational reference system for the earth. This system provides for the unique statement of location for features such as points, lines and polygons.

Limitations

Not applicable

Comparison to other products/versions

The 2016 Census *Geographic Attribute File* contains geographic unique identifiers, names and, where applicable, types or classes applicable to the 2016 Census.

The 2016 Census *Geographic Attribute File* includes all the dissemination blocks, while the dissemination block cartographic boundary file does not include the dissemination blocks located entirely within coastal waters.

Using with other products

The 2016 Census standard geographic areas in the 2016 Census *Geographic Attribute File* can be linked to other 2016 Census products using the geographic unique identifiers.

The 2016 Census dissemination block unique identifiers included in the 2016 Census *Geographic Attribute File* can be used with the *2016 Census Correspondence Files* (Catalogue no. 92-156-X) (www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=92-156-X) to identify corresponding 2011 Census dissemination blocks. The 2011 dissemination block unique identifiers can then be linked to the *2011 Census Geographic Attribute File* (Catalogue no. 92-151-X) (www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=92-151-X) or *GeoSuite 2011* (Catalogue no. 92-150-X) (www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=92-150-X) to retrieve the 2011 Census standard geographic areas and their attributes.

Reference date

Population and dwelling counts

The population and dwelling counts data contained within the 2016 Census *Geographic Attribute File* refer to the 2016 Census of Population which was conducted on May 10, 2016.

Standard geographic areas

The geographic reference date is a date determined by Statistics Canada to finalize the geographic framework for which 2016 Census statistical data are collected, tabulated and reported. The reference date for 2016 Census standard geographic areas is January 1, 2016. More specifically, the census reports data according to the geographic areas (e.g., municipalities and equivalents referred to as census subdivisions) that are in effect on January 1, 2016. For more information, refer to Geographic reference date definition from the *Dictionary, Census of Population, 2016*.

4. Technical specifications

Record layout and data descriptions

Table A
Geographic Attribute File – record layout

Position	Size	Type	Attribute name	Description
1	11	Num	DBUID/Ididu	Uniquely identifies a dissemination block (composed of the 2-digit province or territory unique identifier followed by the 2-digit census division code, the 4-digit dissemination area code, and the 3-digit dissemination block code)
12	8	Num	DBpop2016/IDpop2016	2016 Census dissemination block population
20	8	Num	DBtdwell2016/IDtlog2016	2016 Census dissemination block total private dwellings
28	8	Num	DBurdwell2016/IDrh2016	2016 Census private dwellings occupied by usual residents
36	12.4	Num	DBarea2016/Idsup2016	2016 Census dissemination block land area
48	1	Char	DBir2016/ID_ri2016	2016 Census Indian reserve refusal flag
49	8	Char	Dauid/Adidu	Uniquely identifies a dissemination area (composed of the 2-digit province or territory unique identifier followed by the 2-digit census division code, and the 4-digit dissemination area code)
57	17.8	Num	DARPlamx/Adlamx	Dissemination area representative point x coordinate in Lambert projection
74	17.8	Num	DARPlamy/Adlamy	Dissemination area representative point y coordinate in Lambert projection
91	9.6	Char	DARPlat/Adlat	The dissemination area representative point latitude coordinate, in decimal degrees
100	11.6	Num	DARPlong/Adlong	The dissemination area representative point longitude coordinate, in decimal degrees.
111	2	Char	Pruid/Pridu	Uniquely identifies a province or territory
113	100	Char	Prname/Prnom	Province or territory name
213	100	Char	Prename/Pranom	Province or territory name in English
313	100	Char	Prfname/Prfnom	Province or territory name in French
413	10	Char	Preabbr/Praabbrev	English abbreviation of the province or territory name
423	10	Char	Prfabbr/Prfabbrev	French abbreviation of the province or territory name
433	5	Char	FEDuid/CEFidu	Uniquely identifies a federal electoral district (composed of the 2-digit province or territory unique identifier followed by the 3-digit federal electoral district code)
438	200	Char	FEDname/CEFnom	Federal electoral district name
638	4	Char	Eruid/Reidu	Uniquely identifies an economic region (composed of the 2-digit province or territory unique identifier followed by the 2-digit economic region code)
642	100	Char	Ername/Renom	Economic region name
742	4	Char	Cduid/Dridu	Uniquely identifies a census division (composed of the 2-digit province or territory unique identifier the 2-digit census division code)
746	100	Char	Cdname/DRnom	Census division name
846	3	Char	Cdtype/Drgenre	Census division type
849	8	Char	ADAuid/ADAidu	Uniquely identifies an aggregate dissemination area
857	4	Char	ADAcode	Aggregate dissemination area code
861	7	Char	CSDuid/SDRidu	Uniquely identifies a census subdivision (composed of 2-digit province or territory unique identifier followed by the 2-digit census division code and 3-digit census subdivision code)
868	100	Char	CSDname/SDRnom	Census subdivision name
968	3	Char	CSDtype/SDRgenre	Census subdivisions are classified according to designations adopted by provincial, territorial or federal authorities
971	1	Char	SACtype/CSSgenre	The Statistical Area Classification groups census subdivisions according to whether they are a component of a census metropolitan area, a census agglomeration, a census metropolitan influenced zone or the territories
972	3	Char	SACcode/CSScode	The 3-digit Statistical Area Classification code
975	7	Char	CCSuid/SRUidu	Uniquely identifies a census consolidated subdivision (composed of the 2-digit province/ territory unique identifier followed by the 2-digit census division code and the 3 digit census consolidated subdivision code)
982	100	Char	CCSname/SRUnom	Census consolidated subdivision name
1082	6	Char	DPLuid/Ldidu	Uniquely identifies a designated place (composed of the 2-digit province or territory unique identifier followed by the 4-digit designated place code)
1088	100	Char	DPLname/Ldnom	Designated place name
1188	3	Char	DPLtype/Ldgenre	Designated place type
1191	5	Char	CMAPuid/RMRPidu	Uniquely identifies the provincial or territorial part of a census metropolitan area and census agglomeration (composed of the 2-digit province or territory unique identifier followed by the 3-digit census metropolitan area or census agglomeration area unique identifier)
1196	3	Char	CMAuid/RMRidu	Uniquely identifies a census metropolitan area or census agglomeration
1199	100	Char	CMAname/RMRnom	Census metropolitan area or census agglomeration name
1299	1	Char	CMAtype/RMRgenre	A one-character field identifying whether the unit is a census metropolitan area, a tracted census agglomeration or a non-tracted census agglomeration
1300	10.2	Char	Ctuid/Sridu	Uniquely identifies a census tract within a census metropolitan area or census agglomeration (composed of the 3-digit census metropolitan area or census agglomeration code followed by the 7-character census tract name)

Table A (concluded)
Geographic Attribute File – record layout

Position	Size	Type	Attribute name	Description
1310	4	Char	Ctcode/Srcode	Uniquely identifies a census tract
1314	7.2	Char	Ctname/Srnom	Every census tract is assigned a 7.2-character numeric 'name' (including leading zeros, a decimal point and trailing zeros)
1321	6	Char	POPCTRRAPuid/CTRPOPRRPidu	Uniquely identifies the provincial parts of each population centre and rural area (composed of the 2-digit province or territory unique identifier followed by the 4-digit population centre unique identifier)
1327	4	Char	POPCTRRAuid/CTRPOPRRidu	Uniquely identifies a population centre and rural area
1331	100	Char	POPCTRRAname/CTRPOPRRnom	Population centre and rural area name
1431	1	Char	POPCTRRAtype/CTRPOPRRgenre	Population centre and rural area type
1432	1	Char	POPCTRRAclass/ CTRPOPRRclasse	Distinguishes between small population centres, medium population centres, large urban population centres and rural areas

Attribute domain values

Census division type (CDtype)

For information on the census division types, refer to the census division definition (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo008-eng.cfm) and Table 1.4, Census division types by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_4-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Census subdivision type (CSDtype)

Census subdivisions are classified according to designations adopted by provincial, territorial or federal authorities.

For information on the census subdivision types, refer to the census subdivision definition (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo012-eng.cfm) and Table 1.5, Census subdivision types by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_5-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Census metropolitan area and census agglomeration type (CMAtype)

For information on the census metropolitan area and census agglomeration types, refer to the census metropolitan area and census agglomeration definitions (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo009-eng.cfm) and Table 1.10, Census metropolitan area and census agglomeration types by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_10-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Statistical Area Classification type (SACtype)

The Statistical Area Classification type is a one-digit code that identifies whether a census subdivision is a component of a census metropolitan area (CMA), a census agglomeration (CA), a census metropolitan influenced zone (MIZ) or located in the territories.

For information on the Statistical Area Classification types, refer to the Statistical Area Classification definition (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo045-eng.cfm) and Table 1.11, Statistical Area Classification values by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_11-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Statistical Area Classification code (SACCODE)

The Statistical Area Classification code is a three-digit code that groups census subdivisions according to whether they are a component of a census metropolitan area (CMA), a census agglomeration (CA) or a census metropolitan influenced zone (MIZ). The MIZ categories, which denote the degree of influence that the CMAs and CAs have on these zones, are: strong (996), moderate (997), weak (998), no influence (999), or located in the territories (000) where the Statistical Area Classification is not applicable.

For information on Statistical Area Classification, refer to the Statistical Area Classification definition (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo045-eng.cfm) from the *Dictionary, Census of Population, 2016*. In addition, more details can be found in the Standard Geographical Classification (SGC), volume I – Statistical Area Classification – Variants of SGC (Catalogue no. 12-571-X) (www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=12-571-X).

Population centre and rural area type (POPCTRRAtype)

For information on population centre and rural area types, refer to the population centre (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo049a-eng.cfm) and rural area definitions (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo042-eng.cfm) and Table 1.12, Population centre type values by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_13-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Population centre and rural area size classes (POPCTRRAclass)

For information on population centre and rural area size classes, refer to the population centre (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo049a-eng.cfm) and rural area definitions (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo042-eng.cfm) and Table 1.13, Population centre size class values by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_13-eng.cfm), from the *Dictionary, Census of Population, 2016*.

Designated place type (DPLtype)

For information on designated place types, refer to the designated place definition (www12.statcan.gc.ca/census-recensement/2016/ref/dict/geo018-eng.cfm) and Table 1.6, Designated place types by province and territory, 2016 Census (www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_6-eng.cfm), from the *Dictionary, Census of Population, 2016*.

File specifications

The 2016 Census *Geographic Attribute File* size is approximately 195 MB in ASCII format (.txt), 131 MB in Excel (.xlsx) and 194 MB in comma separated value format (.csv).

Software formats

This reference guide does not provide details on specific software packages that are available for use with the 2016 Census *Geographic Attribute File* in ASCII format (.txt), Excel format (.xlsx) and in comma separated value format (.csv) formats. Users are advised to contact the appropriate software vendor for information.

System requirements

Not applicable

Installation instructions

Not applicable

File naming convention

The 2016 *Geographic Attribute File* follows a standard naming convention. The file name includes:

Census year_catalogue number_file format. The 2016 Census *Geographic Attribute File*, in ASCII (.txt) and comma separated value (.csv) formats are named as follows:

ASCII format: 2016_92-151_XBB.txt

Excel format: 2016_92_151_xbb.xlsx

Comma separated value format: 2016_92-151_XBB.csv

5. Data quality

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

Lineage

Lineage describes the history of the 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 file.

General methodology

The National Geographic Database (NGD) is a joint Statistics Canada-Elections Canada initiative to develop and maintain a spatial database which serves the needs of both organizations. The focus of the NGD is the continual improvement of quality and currency of spatial coverage using updates from provinces, territories and local sources. The native file used for the creation of the 2016 Census *Geographic Attribute File* resides on Statistics Canada's Spatial Data Infrastructure (SDI) which was derived directly from data stored in the NGD environment.

In creating the 2016 Census *Geographic Attribute File*, all dissemination blocks were extracted from the SDI along with data for the higher level standard geographic areas in which dissemination blocks are located.

Geographic areas, unique identifiers, names, types and classes

Statistics Canada disseminates 2016 Census statistical data by standard geographic area. These areas are either administrative or statistical.

Administrative areas are defined, with a few exceptions, by federal and provincial statutes. These include:

- Canada (CAN)
- geographical regions of Canada
- province and territory (PR)
- federal electoral district (FED) (2013 Representation Order)
- census division (CD)
- census subdivision (CSD)
- designated place (DPL)

Statistical areas are defined by Statistics Canada and are used to collect and disseminate census statistical data. These include:

- economic region (ER)
- census consolidated subdivision (CCS)
- census metropolitan area (CMA), census agglomeration (CA) and census metropolitan influenced zone (MIZ)
- census tract (CT)
- population centre (POPCTR) and rural area (RA)
- aggregate dissemination area (ADA)
- dissemination area (DA)
- dissemination block (DB)

Geographic names refer to the names given to standard geographic areas. Geographic names, however, are not given to all standard geographic areas. Named standard geographic areas include provinces and territories, economic regions, census divisions, census consolidated subdivisions, census subdivisions, census metropolitan areas, census agglomerations, designated places, populations centres and federal electoral districts. Although census tracts do not have alphabetic names, they do have numeric names consisting of seven characters, which include leading zeros, a decimal point and trailing zeros.

For provinces and territories, the 2016 Census *Geographic Attribute File* contains both English and French names. The sources used for the names of the provinces and territories are the statutes of the respective provinces and territories.

The source of the geographic names of federal electoral districts is the 2013 Representation Order, Elections Canada.

For those census divisions and census subdivisions that respect the administrative fabric within the provinces and territories, the sources of the names and types are the provincial and territorial governments. Statistics Canada receives input from the provincial and territorial governments concerning all boundary, name and type changes to their respective municipal structures. The 2016 Census reflects the administrative structure within provinces and territories that was in effect on January 1st, 2016, the geographic reference date of the 2016 Census.

Where no provincial or territorial administrative areas exist, census divisions and census subdivisions and their associated names and types are created in consultation with provincial and territorial authorities. The names of Indian reserves and settlements are provided to Statistics Canada by Indigenous and Northern Affairs Canada (formerly Indian and Northern Affairs Canada).

For census consolidated subdivisions, names are derived from their component census subdivisions. Census consolidated subdivision names coincide with the name of the census subdivision component with the largest land area within the consolidated census subdivision.

Census metropolitan areas and census agglomerations names are usually based on the largest population centre within the census metropolitan area or census agglomeration.

Information on the delineation criteria for 2016 Census standard geographic areas as well as the sources of geographic names is provided in the *Dictionary, Census of Population, 2016* (Catalogue no. 98-301-X).

Positional accuracy

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.

Strategies to increase positional accuracy and currency of road network data, have been implemented over the past several years. A key component of these efforts was the alignment of existing road network to externally available GPS-compliant authoritative provincial sources – in a process known as ‘convergence.’ Convergence has been completed in British Columbia, Alberta, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island. The results of which will be reflected in 2016 Census spatial products. Thus, these efforts ensure that Statistics Canada’s dissemination geographies will better integrate with other spatial datasets originating outside of Statistics Canada such as the provincial sources and municipal topographic data.

The only positional data contained within the 2016 Census *Geographic Attribute File* are the representative point coordinates of dissemination areas. Within Statistics Canada’s Spatial Data Infrastructure, representative point coordinates were generated using ArcGIS® software in conjunction with dissemination area boundaries. The most detailed hydrography available was used in identifying cartographic boundaries and calculating representative point coordinates in Statistics Canada’s native format. Efforts were made to ensure that representative point coordinates do not fall in water, where possible. The representative point coordinates were initially calculated based on the Lambert conformal conic projection; they were then transformed to latitude and longitude coordinates.

Attribute accuracy

Attribute accuracy refers to the accuracy of the quantitative and qualitative information attached to each feature (such as population counts for dissemination blocks, census subdivision unique identifiers, names and types).

The geographic unique identifiers, names, types and classes contained within the 2016 Census *Geographic Attribute File*, along with the relationships between all standard geographic areas, were verified against Statistics Canada's Spatial Data Infrastructure. The Figure 1.1, Hierarchy of standard geographic areas for dissemination, 2016 Census, illustrates the relationships between all geographic areas.

Blank fields are displayed within the 2016 Census *Geographic Attribute File* where population and dwelling counts have been suppressed due to incompletely enumerated Indian reserves and Indian settlements. Population counts for Indian reserve refusal census subdivisions are not included in any census counts, therefore the blank population counts at the census subdivision, dissemination area and dissemination block levels are consistent with the 2016 Census statistical data.

2016 Census land area

Land area data for 2016 Census standard geographic areas reflect the boundaries in effect on January 1, 2016, the geographic reference date for the 2016 Census.

The data were derived from the Spatial Data Infrastructure (SDI), including selected hydrographic polygon layers. The Lambert conformal conic projection was transformed to the Albers equal-area conic projection, since the property of equal area is appropriate for calculating land area. The same projection parameters (two standard parallels, central meridian and latitude of projection origin) were used for each province or territory. Land area was calculated using ArcGIS® software.

Users should note that even when the boundaries of standard geographic areas did not change between the 2011 and 2016 censuses, calculated land areas may differ due to geometry shifts. Geometric shifts are caused by a change in the underlying land and hydrography features and by improvements in the absolute positional accuracy within areas.

Logical consistency

Logical consistency describes the fidelity of relationships encoded in the data structure of the digital spatial data.

Internal consistency

Consistency between data at various geographic levels was verified. Verification procedures ensured that counts at lower geographic levels sum to higher geographic levels.

Population and dwelling count data

The 2016 Census population and dwelling count data were verified to ensure that they sum properly to all higher level 2016 Census standard geographic areas.

Consistency with other products

The population and dwelling count data in the 2016 Census *Geographic Attribute File* are consistent with those disseminated in other 2016 Census products.

Completeness

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 2016 Census *Geographic Attribute File* contains one record for each of the 489,905 dissemination blocks. It also contains the appropriate geographic areas for each standard geographic level. Refer to the number of geographic areas by province and territory for the 2016 Census. These data were verified within the 2016 Census Geographic Attribute File.

Reference products

Dictionary, Census of Population, 2016
(www12.statcan.gc.ca/census-recensement/2016/ref/dict/az2-eng.cfm?topic=az2)

Figure 1.1 Hierarchy of standard geographic areas for dissemination, 2016 Census
(www12.statcan.gc.ca/census-recensement/2016/ref/dict/figures/f1_1-eng.cfm)

Table 1.1 Geographic areas by province and territory, 2016 Census
(www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_1-eng.cfm)

Table 1.5 Census subdivision types by province and territory, 2016 Census
(www12.statcan.gc.ca/census-recensement/2016/ref/dict/tab/t1_5-eng.cfm)