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Geographic Attribute File, Reference Guide, Census year 2021



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Table of contents

What's new?	4
1. About this guide	5
2. Overview	6
3. About this product	7
Purpose of the product	7
Definitions and concepts.....	7
Content.....	7
General methodology	8
Limitations	8
Comparison to other products or versions	8
Use with other products	9
Reference date	9
4. Technical specifications	10
Record layout and data descriptions	10
Attribute domain values.....	12
Software formats	13
File extension and accented character information	13
Geographic representation.....	13
File naming convention	13
5. Data quality	14
Lineage.....	14
Positional accuracy	14
Attribute accuracy	14
Logical consistency.....	14
Consistency with other products	15
Completeness	15

Geographic Attribute File, Reference Guide, Census year 2021

This reference guide is intended for users of the *2021 Geographic Attribute File*. This guide provides an overview of the file, the general methodology used to create it, and important technical information.

What's new?

- The *2021 Geographic Attribute File* is now only available in comma-separated value (.csv) format.
- The *2021 Geographic Attribute File* now includes the Dissemination Geography Unique Identifier (DGUID) for all standard geographic areas.

1. About this guide

This reference guide is intended for users of the *2021 Geographic Attribute File*. A record layout is provided in the [Technical specifications](#) section.

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2. Overview

The *2021 Geographic Attribute File* contains information at the dissemination block (DB) level, based on 2021 Census standard geographic areas. The data available include DB level population counts, dwelling counts and land area. In addition, the *2021 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 DB level data. The dissemination area (DA) representative point coordinates are also included in the *2021 Geographic Attribute File*.

3. About this product

Purpose of the product

The *2021 Geographic Attribute File* is a dataset at the DB level that also contains the complete set of 2021 Census geographic areas. The purpose of the file is to provide users the ability to aggregate the DBs 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, 2021](#).

Content

The *2021 Geographic Attribute File* contains all the 2021 Census DBs and their selected attributes, such as standard geographic areas' unique identifiers (UIDs), DGUIDs, population and dwelling counts, land area, 2021 Census incompletely enumerated Indian reserves and Indian settlements, and the corresponding DAs' representative point coordinates.

Hierarchy of standard geographic areas

The *2021 Geographic Attribute File* is a DB level dataset which includes data for the following 2021 Census standard geographic areas:

- Provinces and territories (PRs)
- Census divisions (CDs)
- Federal electoral districts (2013 Representation Order) (FEDs)
- Census subdivisions (CSDs)
- Designated places (DPLs)
- Economic regions (ERs)
- Census consolidated subdivisions (CCSs)
- Census metropolitan areas (CMAs), census agglomerations (CAs), and census metropolitan influenced zones (MIZs)
- Census tracts (CTs)
- Population centres (POPCTRs) and rural areas (RAs)
- Dissemination areas (DAs)
- Dissemination blocks (DBs)
- Aggregate dissemination areas (ADAs)

The [Figure 1.1, "Hierarchy of standard geographic areas for dissemination, 2021 Census,"](#) illustrates the relationships between all standard geographic areas.

2021 Census population and private dwellings

The population and dwelling counts contained within the *2021 Geographic Attribute File* are from the 2021 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 11, 2021.

2021 Census land area

Land area is the area in square kilometres of the land-based portions of 2021 Census standard geographic areas. The land area data contained within the *2021 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.

Land area data for 2021 Census standard geographic areas reflect the boundaries in effect on January 1, 2021 (the geographic reference date for the 2021 Census of Canada).

2021 Census incompletely enumerated Indian reserves and Indian settlements

In 2021, some Indian reserves and Indian settlements were incompletely enumerated. For these reserves and settlements, dwelling enumeration was either not permitted or was interrupted before it could be completed.

The 2021 Census population and dwelling counts are not available for the incompletely enumerated Indian reserves and Indian settlements, and are not included in 2021 Census tabulations. Data for geographic areas containing one or more of these reserves and settlements are noted accordingly.

Positional data

The *2021 Geographic Attribute File* contains the representative point coordinates for the DAs, weighted by population data. The representative point coordinates were projected in Lambert conformal conic projection (NAD83).

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 *2021 Geographic Attribute File* resides on Statistics Canada's Spatial Data Infrastructure (SDI) which was derived directly from data stored in the NGD.

In creating the *2021 Geographic Attribute File*, all DBs were extracted from the SDI along with data for the higher level standard geographic areas in which DBs are located. The corresponding geographies were then joined to the DBs, and completed with DBs population and dwelling counts.

Limitations

Not applicable

Comparison to other products or versions

The *2021 Geographic Attribute File* contains UIDs, DGUIDs, names and, where applicable, types and classes applicable to the 2021 Census geographic areas.

The *2021 Geographic Attribute File* includes all the DBs, while the 2021 Dissemination Block Cartographic Boundary File does not include the DBs located entirely within coastal waters. See the [2021 Boundary Files, Reference Guide](#) for more information.

Users should note that even when the boundaries of standard geographic areas did not change between the 2016 and 2021 censuses, the land areas may differ due to geometry shifts. The shifts are caused by the integration of CanVec hydrographic features, as well as improvements in the absolute positional accuracy of some of the roads.

Because of the missing counts for the incompletely enumerated Indian reserves and Indian settlements, users are cautioned that for the affected geographic areas, comparisons (e.g., percentage change) between 2016 and 2021 may not be precise. The impact of the missing data can be significant for lower-level geographic areas (e.g., CSDs), 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 2021 Census but enumerated for the 2016 Census and vice versa.

Use with other products

The 2021 Census standard geographic areas in the *2021 Geographic Attribute File* can be linked to other 2021 Census products using UIDs or DGUIDs.

The 2021 Census DB unique identifiers (DBUID) included in the *2021 Geographic Attribute File* can be used with the [2021 Correspondence Files](#) to identify corresponding 2016 Census DBs. The 2016 DBUIDs can then be linked to the [2016 Geographic Attribute File](#) or [2016 Geosuite](#) to retrieve the 2016 Census standard geographic areas and their attributes.

Reference date

Population and dwelling counts

The population and dwelling counts data contained within the *2021 Geographic Attribute File* refer to the 2021 Census of Population which was conducted on May 11, 2021.

Standard geographic areas

The geographic reference date is a date determined by Statistics Canada to finalize the geographic framework for which 2021 Census statistical data are collected, tabulated and reported. The reference date for 2021 Census standard geographic areas is January 1, 2021.

4. Technical specifications

Record layout and data descriptions

The following table identifies and briefly describes the selected attributes comprising the content of the 2021 *Geographic Attribute File*.

Table 4.1
Record layout - Geographic Attribute File

Attribute name	Data type	Description
PRUID_PRIDU	Character (2)	Uniquely identifies a province or territory.
PRDGUID_PRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 provinces or territories. ¹
PRNAME_PRNOM	Character (100)	Province or territory name.
PRENAME_PRANOM	Character (100)	Province or territory name in English.
PRFNAME_PRFNOM	Character (100)	Province or territory name in French.
PREABBR_PRAABBREV	Character (10)	English abbreviation of the province or territory name.
PRFABBR_PRFABBREV	Character (10)	French abbreviation of the province or territory name.
CUID_DRIDU	Character (4)	Uniquely identifies a census division (composed of the 2-digit province or territory unique identifier the 2-digit census division code).
CDDGUID_DRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 census divisions. ¹
CDNAME_DRNOM	Character (100)	Census division name.
CDTYPE_DRGENRE	Character (3)	Census division type.
FEDUID_CEFIDU	Character (5)	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).
FEDDGUID_CEFIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 federal electoral districts. ¹
FEDNAME_CEFNOM	Character (200)	Federal electoral district name.
CSDUID_SDRIDU	Character (7)	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).
CSDDGUID_SDRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 census subdivisions. ¹
CSDDNAME_SDRNOM	Character (100)	Census subdivision name.
CSDTYPE_SDRGENRE	Character (3)	Census subdivisions are classified according to designations adopted by provincial, territorial or federal authorities.
DPLUID_LDIDU	Character (6)	Uniquely identifies a designated place (composed of the 2-digit province or territory unique identifier followed by the 4-digit designated place code).
DPLDGUID_LDIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 designated places. ¹
DPLNAME_LDNOM	Character (100)	Designated place name.
DPLTYPE_LDGENRE	Character (3)	Designated place type.
ERUID_REIDU	Character (4)	Uniquely identifies an economic region (composed of the 2-digit province or territory unique identifier followed by the 2-digit economic region code).
ERDGUID_REIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 economic regions. ¹
ERNAME_RENOM	Character (100)	Economic region name.
CCSUID_SRUIDU	Character (7)	Uniquely identifies a census consolidated subdivision (composed of the 2-digit province or territory unique identifier followed by the 2-digit census division code and the 3 digit census consolidated subdivision code).
CCSDGUID_SRUIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 census consolidated subdivisions. ¹
CCSNAME_SRUNOM	Character (100)	Census consolidated subdivision name.

Table 4.1
Record layout - Geographic Attribute File

Attribute name	Data type	Description
SACTYPE_CSSGENRE	Character (1)	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.
SACCODE_CSSCODE	Character (3)	The 3-digit Statistical Area Classification code.
CMAPUID_RMRPIDU	Character (5)	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).
CMAPDGUID_RMRPIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 Census metropolitan area or census agglomeration (provincial component). ¹
CMAUID_RMRIDU	Character (3)	Uniquely identifies a census metropolitan area or census agglomeration.
CMADGUID_RMRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 census metropolitan areas or census agglomerations. ¹
CMANAME_RMRNOM	Character (100)	Census metropolitan area or census agglomeration name.
CMATYPE_RMRGENRE	Character (1)	A one-character field identifying whether the unit is a census metropolitan area, a tracted census agglomeration or a non-tracted census agglomeration.
CTUID_SRIDU	Character (10)	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).
CTDGUID_SRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 census tracts. ¹
CTCODE_SRCODE	Character (4)	Uniquely identifies a census tract.
CTNAME_SRNOM	Character (7)	Every census tract is assigned a 7.2-character numeric 'name' (including leading zeros, a decimal point and trailing zeros).
POPCTRRAPUID_CTRPOPRRPIDU	Character (6)	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).
POPCTRRAPDGUID_CTRPOPRRPIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 population centres and rural areas (provincial component). ¹
POPCTRRAUID_CTRPOPRRIDU	Character (4)	Uniquely identifies a population centre and rural area.
POPCTRRADGUID_CTRPOPRRIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 population centres and rural areas. ¹
POPCTRRANAME_CTRPOPRRNOM	Character (100)	Population centre and rural area name.
POPCTRRATYPE_CTRPOPRRGENRE	Character (1)	Population centre and rural area type.
POPCTRRACCLASS_CTRPOPRRCLASSE	Character (1)	Distinguishes between small population centres, medium population centres, large urban population centres and rural areas.
DAUID_ADIDU	Character (8)	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).
DADGUID_ADIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 dissemination areas. ¹
DARPLAMX_ADLAMX	Number (15.4)	Dissemination area representative point x coordinate in Lambert projection.
DARPLAMY_ADLAMY	Number (15.4)	Dissemination area representative point y coordinate in Lambert projection.
DARPLAT_ADLAT	Number (11.6)	The dissemination area representative point latitude coordinate, in decimal degrees.
DARPLONG_ADLONG	Number (13.6)	The dissemination area representative point longitude coordinate, in decimal degrees.
DBUID_IDIDU	Character (11)	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).
DBDGUID_IDIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 dissemination blocks. ¹
DBPOP2021_IDPOP2021	Number (9)	2021 Census dissemination block population.
DBTDWELL2021_IDTLOG2021	Number (9)	2021 Census dissemination block total private dwellings.
DBURDWELL2021_IDRHLOG2021	Number (9)	2021 Census private dwellings occupied by usual residents.

Table 4.1
Record layout - Geographic Attribute File

Attribute name	Data type	Description
DBAREA2021_IDSUP2021	Number (14.4)	2021 Census dissemination block land area.
DBIR2021_IDRI2021	Character (1)	2021 Census Indian reserve refusal flag.
ADAUID_ADAIDU	Character (8)	Uniquely identifies an aggregate dissemination area.
ADADGUID_ADAIDUGD	Character (21)	Dissemination Geography Unique Identifier for 2021 aggregate dissemination areas. ¹
ADACODE_ADACODE	Character (4)	Aggregate dissemination area code.

1. For further information please refer to the "[Dissemination Geography Unique Identifier \(DGUID\)](#)" definition from the *Dictionary, Census of Population, 2021*.

Attribute domain values

Census division type (CDTYPE)

For information on census division types, refer to the "[Census division type \(CDTYPE\), 2021 Census](#)" table.

Census subdivision type (CSDTYPE)

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

For information on census subdivision types, refer to the "[Census subdivision type \(CSDTYPE\), 2021 Census](#)" table.

Designated place type (DPLTYPE)

For information on designated place types, refer to the "[Designated place type \(DPLTYPE\), 2021 Census](#)" table.

Statistical Area Classification type (SACTYPE)

The Statistical Area Classification type is a one-digit code that identifies whether a CSD is a component of a CMA, a CA, a MIZ or in the territories.

For information on Statistical Area Classification types, refer to the "[Statistical Area Classification type \(SACTYPE\), 2021 Census](#)" table.

Statistical Area Classification code (SACCODE)

The Statistical Area Classification code is a three-digit code that groups CSDs according to whether they are a component of a CMA, CA or MIZ. MIZ categories denote the degree of influence that the CMAs and/or CAs have on these zones.

For information on Statistical Area Classification codes, refer to the "[Statistical Area Classification code \(SACCODE\), 2021 Census](#)" table.

Census metropolitan area and census agglomeration type (CMATYPE)

For information on census metropolitan area and census agglomeration types, refer to the "[Census metropolitan area and census agglomeration type \(CMATYPE\), 2021 Census](#)" table.

Population centre and rural area type (POPCTRRATYPE)

For information on population centre and rural area types, refer to the "[Population centre and rural area type \(POPCTRRATYPE\), 2021 Census](#)" table.

Population centre and rural area size classes (POPCTRRACCLASS)

For information on population centre and rural area size classes, refer to the "[Population centre and rural area size classes \(POPCTRRACCLASS\), 2021 Census](#)" table.

File specifications

The *2021 Geographic Attribute File* size is approximately 300 megabytes in comma separated value format (.csv).

Software formats

This reference guide does not provide details on specific software packages that are available for use in comma separated value format (.csv). Users are advised to contact the appropriate software vendor for information. Users should be aware that the comma separated value (.csv) files contain leading zeroes which not all spreadsheet software recognize. If the software does not load the leading zeroes, users should import the files as text/csv instead, in order to view the files properly.

File extension and accented character information

The .csv file is compressed into a WinZip® file (file extension .zip).

Geographic representation

Not applicable

File naming convention

The *2021 Geographic Attribute File* follows a standard naming convention. The file name includes: Census year, catalogue number and file format.

The *2021 Geographic Attribute File* is named as follows: 2021_92-151_X.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.

All data in the *2021 Geographic Attribute File* were originally extracted from Statistics Canada's SDI.

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.

The only positional data contained within the *2021 Geographic Attribute File* are the representative point coordinates of DAs. Within Statistics Canada's SDI representative point coordinates were generated using ArcGIS® software in conjunction with DA boundaries. 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 DBs, census subdivision unique identifiers (CSDUID), names and types).

The UIDs, DGUIDs, names, types and classes contained within the *2021 Geographic Attribute File*, along with the relationships between all standard geographic areas, were verified against Statistics Canada's SDI and found to accurately reflect them.

Blank fields are displayed within the *2021 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 CSDs are not included in any census counts, therefore the blank population counts at the DB levels are consistent with the 2021 Census statistical data.

Logical consistency

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

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

Consistency with other products

The population and dwelling count data in the *2021 Geographic Attribute File* are consistent with those disseminated in other 2021 Census products. The UIDs and DGUIDs used in the *2021 Geographic Attribute File* are the same as those used in other geography products and represent the same geographic areas.

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 *2021 Geographic Attribute File* contains one record for each of the 498,786 DBs. It also contains the appropriate geographic areas for each standard geographic level. The data in [Table 1.1, “Geographic areas by province and territory, 2021 Census,”](#) were verified within the *2021 Geographic Attribute File*.