Catalogue No. 92F0150GIE

GeoSuite
2001 Census
Reference Guide

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Statistics Canada

GeoSuite 2001 Census

Reference Guide

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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 new geographic unit, the **block**, has been added to the standard hierarchy.
- A new **statistical area classification** code has been added to the census subdivision.
- **GeoSuite** reports can be exported to other software programs.
- A concordance file linking the 1996 enumeration areas to the 2001 **dissemination areas** is provided as a supplemental file.

New standard geographic areas and classifications

- The national road coverage and related geographic attributes permit the creation of a new basic geographic unit—the block. A block is an area bounded on all sides by roads and/or boundaries of selected standard geographic areas.
- These blocks are used to automatically generate dissemination areas (DAs). The dissemination area is a small, relatively stable geographic unit composed of one or more blocks. DAs cover all the territory of Canada and replace the enumeration area (that is still used for census collection) as the smallest standard geographic area for which census profile data are disseminated. In most cases, DAs have a population of between 400 and 700.
- For the first time, urban areas are defined using population counts and population density data from the current census instead of from the previous census. The population density data are block-based rather than enumeration area-based as for previous censuses.
- Statistical area classification (SAC) classifies census subdivisions according to whether they are a component of a census metropolitan area, a census agglomeration, an influenced zone or a territory.

Table of Contents

1. About this guide

This user's guide provides an overview of the **GeoSuite** CD-ROM product, including the general methodology used to create it.

The **Overview** section provides a summary of the data contents and the reference date of the product.

The **Getting started** section describes the main menu of **GeoSuite** and provides explanations on the various functions of the program. It also includes four sample sessions with step-by-step examples of how to do different kinds of data requests.

Section 4, **Data quality**, provides information for users to evaluate the suitability of the data for a particular application.

Installation instructions are provided in section 5, **Technical specifications**.

Supplementary information is provided in the appendices.

This user's guide is based on the best information available at the time of release. It does not constitute a warranty of the data in the event that users may observe characteristics that deviate from those stated in this guide. All efforts have been made to ensure that the verification of this product has been thoroughly done. However, there is no guarantee that the data are 100% accurate. For further information, see Section 4, **Data quality**.

2. Overview

Introduction

GeoSuite is a powerful search tool based on the 2001 Census geographic reference information and includes population and dwelling count data for all standard geographic areas. With **GeoSuite**, users may retrieve data, explore the links between geographic areas and obtain information on those areas. The information available includes 2001 population counts, 2001 dwelling counts, **land area** (except for **blocks**), **geographic codes**, names and, in some cases, 1996 Census population counts (both final and adjusted) for growth calculations.

This version of **GeoSuite** contains data for the following standard Census and geographic units:

- **Canada** (CAN)
- **provinces** / **territories** (PR)
- **economic regions** (ER)
- **census divisions** (CD)
- **census consolidated subdivisions** (CCS)
- **census subdivisions** (CSD)
- **designated places** (DPL), (the CSD parts of DPLs)
- **federal electoral districts** (FED), (based on the 1996 Representation Order)
- **census metropolitan areas** / **census agglomerations and non-census metropolitan areas / census agglomerations** (CMA/CA and non-CMA/CA)
- **census tracts** (CT)
- **urban areas** and **rural areas** (UARA)
- **dissemination areas** (DA)
- **blocks**

GeoSuite also provides access to the following information:

- DA **reference map** listing that enables users to get reference numbers for DA maps covering any standard geographic area; and
- A series of reports, including block reference lists. These reports can be viewed on screen, printed or exported.
- DA correspondence data that relate the 1996 Census **enumeration areas** to the 2001 Census dissemination areas;

The Enumeration Area Correspondence (ea-sd_corr.txt and ea-sd_corr.mdb) file describes the relationship of the 1996 enumeration area (EA) with the 2001 dissemination area (DA). The fields available in the file are the 1996 enumeration area unique identifier (1996EAuid), the dissemination area unique identifier (DAuid), the part flag (Part), the BLOCKuid, the 1996 enumeration area population (1996EApop) and the 2001 enumeration area population (2001EApop). The Part Flag indicates that the 1996 EA is partially contained within the 2001 DA boundary. The Part Flag is ‘0’ if the 1996 EA corresponds to only one 2001 DA and ‘1’ if it corresponds to more than one 2001 DA. Also listed are the 2001 blocks contained within each 1996 EA. Together, these fields allow comparison between the 1996 enumeration area and the 2001 dissemination area.

This file is available on the GeoSuite CD-ROM as a comma delimited ASCII file (ea-sd_corr.txt) and as a Microsoft™ Access™ file (ea-sd_corr.mdb).

Reference date

Population and dwelling counts
The population and dwelling counts are generated from the 2001 Census of Population and Housing which was conducted on May 15, 2001.

Standard geographic areas
The **geographic reference date** for the 2001 Census is **January 1, 2001**. Names, boundaries and other attributes of geographic areas change frequently (for example, municipal amalgamations, annexations, name and status changes). Since the geographic framework is used for census data collection, the geographic reference date must be set sufficiently in advance of Census Day to permit all changes to be processed in time. Furthermore, notification of these changes is normally not received from the applicable federal and provincial authorities until after the changes have occurred. For these reasons, the census reports data according to the geographic areas that were in effect on January 1, 2001, provided the information on the changes was received by Statistics Canada by March 1, 2001.

Since census data refer to conditions as they existed on Census Day (May 15, 2001), and the geographic framework is established according to the geographic areas in effect as of January 1, 2001, census data may be reported for geographic areas which have subsequently changed during this period.

3. Getting started

When you install **GeoSuite** (see section 5), by default a 'Statistics_Statistique-Canada' program group is created. The **GeoSuite** icon is located in this program group. Double-clicking on this icon will launch the **GeoSuite** program. The first screen to appear will be a language selection. Choose the language of preference. A licence agreement screen appears next with a choice of accepting the conditions of the licence agreement or not. If you click on the **Accept** button, you will proceed to the **GeoSuite Main Menu** screen. If you click on the **Do Not Accept** button, you will automatically exit from the system.

On the **Main Menu** screen, there are six functions available: **Name Search**, **Code Search**, **Chart Search**, **Reports**, **Load Query,** and **Quit**. These functions are described in detail in the following sections and the Windows™ Help.

There are Windows™ Help files found in the software. You can access the **Help** from the **Menu Bar** or the **Toolbar**. If you would like to get information on a particular topic, go into the **Help** menu in the **Menu Bar** and select either **Contents** or **Search for Help on...** to display a list of available help topics. If you would like help on the screen that you are in, then click on the **Help** button in the **Toolbar** to display the help topic for that screen or press **F1**.

Name search

The **Name Search** function allows you to search for a geographic name or area and to retrieve data on the area. There are four steps in this process.

Step 1: Select an area (for example, a specific province, **place name**, or even all of Canada).

Step 2: Select the lower geographic level where you expect to find the information you need (for example, economic regions in the province or provinces in the country).

Step 3: Select the data set you wish to view by selecting the fields and sort order and adding any conditions on the data.

Step 4: View, print or export the results of your search, perform calculations or save your query.

Step 1 of 4: Name search

Upon entering this screen, your cursor is in the **Enter Name** field. You may type in all, some, or none of the letters of the desired name, then press the tab key to move below to the **List Panel**.

You may want to use the **Level** list to view only the names of a particular geographic type. To do this, pull down the list on the right. By default, all of the names in Canada are displayed.

The data for the name selected in the list panel are displayed in the three data information panels. Users can toggle between the panels by clicking on the three tabs: **2001 Census Info**, **Geographic Levels**, and **1996 Census Info**.

The data for the selected geographic area may be printed using either the **Print** command on the **Menu Bar**, or the **Print** button on the **Toolbar** at the top of the screen.

You may then press **Next** to go to the next screen or **Back** to go back to the **Main Menu**.

When the 'CT (Census Tract)' level is selected from the **Level** pull down list, a **Select CMA/CA** button appears. This button allows you to narrow your search and view only the CTs in a specific CMA/CA.

Step 2 of 4: Select lower geographic level

All of the choices available for the place selected in Step 1 are displayed and you must choose one level of geographic data that you want to view. Not every selection will bring up data. There may or may not be data present for the levels and the area you selected in the previous screen.

Step 3 of 4: Select data

In this screen you select fields to output for the chosen area and the level of geographic data you wish to view. When this screen first appears, it displays the fields specific to the lower geographic level selected in **Step 2 of 4**. Users can also select fields from a higher geographic level by clicking on the **Select fields from table** pull down list (upper right corner).

For instructions on how to move items from one list to the other, see **Using Selection Lists** in the Windows Help files.

Click on the **Set Sort Order** button to sort the data in a particular order.

Click on the **Set Condition** button to add conditions and view a subset that matches the conditions.

Click on the **No Duplicate** option to eliminate duplicate records in the data you select to view. For more information on the **No Duplicate** option, see the fourth sample session.

You must have entered at least one item in the **Selected Fields** list in order to set a sort order or to access the next screen.

The last step is to click on the **Next** button to run the query and display your data in the **View Data** window (Step 4).

Step 4 of 4: View data

Once you have selected the data fields for the area and level of geography, this step will allow you to view, print or export the results of your search, perform calculations or save your query.

You can also use the **Back** button to retrace your steps through the search and repeat the search using a different geographic area or altering the fields or conditions.

You can change the size of columns by using the mouse to grab the line between columns. A symbol with two arrows will appear. Drag the symbol to enlarge or shrink the columns.

Code search

Geographic codes are created by Statistics Canada to identify geographic entities. They are an alternative to searching for data by name. The **Code Search** function allows you to search for a geographic code and retrieve data on the area. You can then search for information on lower geographic levels within a geographic area. There are four steps in this process. The last 3 steps are identical to a **Name Search**.

Step 1: Select a code (for example, a specific province code, place name code, or even all of Canada).

Step 2: Select the lower geographic level where you expect to find the information you need (for example, place names in the province, or provinces in the country).

Step 3: Determine the data set you wish to view, by selecting the fields, sort order, and adding any conditions on the data.

Step 4: View, print, or export the results of your search, perform calculations or save your query.

Step 1 of 4: Code search

Upon entering the screen, your cursor is in the **Enter Code** field. You may type in all, some, or none of the numbers of the desired code, then press the tab key to move below to the **List Panel**.

Refer to **Name Search** for a description of Step 1 of 4.

Step 2 of 4: Select lower geographic level

Refer to **Name Search** for a description of Step 2 of 4.

Step 3 of 4: Select data

Refer to **Name Search** for a description of Step 3 of 4.

Step 4 of 4: View data

Refer to **Name Search** for a description of Step 4 of 4.

Chart search

The **Chart Search** function allows you to select and view data using a chart view that represents the geographic hierarchy.

To view data for a certain geographic level, click on the acronym button that corresponds to it. For example, FED represents federal electoral district. Clicking the **FED** button will display a list of federal electoral districts and columns of data about them in the **Geography Data** window.

You can choose more than one geographic level. Each additional level you choose adds a page to the **Geography Data** window. To view other pages, you need to click on the appropriate tab.

When you make a selection by clicking on a geographic level, only the geographic levels that are on the same path will stay enabled. The other choices are dimmed to show they are disabled.

When more than one geographic level is selected, the data in the lower level will be a subset of the units for the currently selected unit in the higher level.

You can remove levels from the **Geography Data** window by clicking on the appropriate button on the chart again.

There are two ways to toggle between the **Chart Search** screen and the **Data Display** window. You can click any part of the screen you want to see. This will bring it to the front. You can also use the toggle button to display whichever window is not in front.

You can change the size of columns by using the mouse to grab the line between columns. A symbol with two arrows will appear. Drag the symbol to enlarge or shrink the columns.

You can also click on the small grey box in the lower left-hand corner of the data page and drag to the right to split the chart. This is useful to keep the codes or names to the left while scrolling through the fields to the right.

Reports

This function displays a list of five standard, frequently requested reports based on 2001 Census data. These reports were formerly print publications of Statistics Canada.

There are five different reports available:

- CMA/CA: Block reference list by CT (a list of CMAs/CAs that contain census tracts is displayed).
- CMA/CA: Block reference list by CSD (all CMAs/CAs are available).
- CD: Block reference list by CSD (all CDs are displayed with their codes to differentiate those with the same name).
- FED: CSD reference list (all FEDs are listed).
- CSD: CT reference list (all CSDs in a CMA/CA are listed, but not all will contain census tracts).

Select the report you want by clicking the appropriate button.

Click on the **Select Area** button to choose the geographic area for your report. **Reports** may then be printed, viewed on screen, or exported.

Load query

A saved query is created by completing a **Name Search** or **Code Search** through the program data, then saving the steps you used by clicking the **Save Query** button in the **View Data** screen. Saved queries allow users to carry out identical searches through **GeoSuite**, but using different fields.

To load a query you created in an earlier search, select its name and description and click OK. This will open the **Select Data** screen and allow you to revise or re-enter field selections, sort order and conditions. Clicking the **Back** button at this point will return you to the **Load Query** screen. Once you have clicked the **Next** button, the **Back** button may then be used to return to Step 1.

You may delete queries you no longer want to save and recall any you may have just accidentally deleted.

Quit

This function allows you to exit **GeoSuite**. The next screen will ask you to confirm your intentions to exit **GeoSuite**.

Sample sessions

The steps for four sample data requests are detailed below. These sample sessions have been designed to give an overview of the most useful functions of **GeoSuite** and to review difficult selections for novice users.

1. Searching for geographic areas and their data values

In this sample session, you will be searching for the Lambert co-ordinates of three DAs - 24010001, 24010002, and 35010001.

From the **Main Menu**, click the **Code Search** button.

Click on the **Level** drop-down list, which initially contains 'All'.

From the list that appears, scroll down until you can see 'DA (Dissemination Area)', and click on the entry.

The cursor will now be in the text box at the top of the screen. Type in the DA code for the first DA on which you need information, 24010001. The list below displays the DAs in numerical order.

Once you stop typing, the information for that DA is displayed in the tabs in the bottom half of the screen. Clicking on each **Panel** brings it forward, so you can see the information grouped on it.

Note the Lambert co-ordinates on paper, or print the information using the **Print** button on the toolbar at the top of the screen, or use the **Print** option from the **File Menu**.

Use the scroll bar on the list of codes, or the down arrow key, to scroll down to the next record, 24010002. Click on this record to select it.

To view the information on the final DA, double-click in the **Enter Code** text box at the top of the screen. This will shade the numbers you typed in previously, so they will be overwritten when you start to type in the next code. Type in 35010001.

2. Browsing data using the Chart Search function

In this sample session, you will be using the **Chart Search** function to browse FEDs in Ontario.

From the **Main Menu**, click the **Chart Search** button.

In the **Chart** window, click on the **PROV/TERR** button. This opens the data panel in the **Geographic Data** window, listing all of the provinces.

In the Chart, click on the **FED** button. This opens a 'FED' data tab behind the tab labelled 'PR'.

In the **Geographic Data** window, click in the record for Ontario to select it. Now click on the **FED** tab. The table contains each of the FEDs in Ontario. Use the scroll bar at the bottom of the data to reveal the rest of the fields. Use the scroll bar at the side of the data to move down through the rest of the records.

3. Creating a .txt file of population for a CMA by CSDs

In this sample session, you will be creating a .txt file with CSDs of the type 'City' and their 2001 population in the CMA of Toronto, ordered by name.

From the **Main Menu**, click the **Name Search** button.

In the text box at the top of the screen, type in 'Toronto'.

Hit the tab key to move to the list of names.

Hit the down arrow to scroll through the **Level** column and select the only Toronto entry which is a CMA/CA.

Click on the **Next** button to move to Step 2 of 4.

Click on 'CSD (Census Subdivision)' in the list of geographic levels.

Click on the **Next** button to move to Step 3 of 4.

In the **Available Fields** list, double-click on 'CSDname'. It should appear in the **Selected Fields** list. Now use the scroll bars on the **Available Fields** list until 'CSDpop2001' appears, then double-click on it.

Click on the **Set Sort Order** button.

Double-click on 'CSD Name' in the **Selected Fields** window. It should appear in the **Sort By** list.

Click on the **OK** button to close this screen.

Click on the **Set Condition** button.

Click on the drop-down list in the **Field** column and select CSDtype from the list.

Click on the drop-down list in the **Criterion** column, and select 'Equals'.

Click in the **Value** column, and then click on the **Select from List** button.

Click in the row with 'C' in the CSDtype column to select that value.

Click on the **OK** button to close this screen.

Click on the **Next** button to see the data.

Click on the **Export** button on the **Toolbar**, or select the **Export** option from the **Tools** menu.

Click in the **Type** drop-down list, and select the appropriate file delimiter.

Enter the file name to save the data. Use the **Browse** button to select a directory path or a filename that already exists.

Click on the **OK** button to complete the export. The data file can now be opened from within a spreadsheet software such as Microsoft™ Excel™.

4. Creating a list of the FEDs for a cross provincial CMA/CA

In this sample session, you will be creating a list of the FEDs (federal electoral districts) either partly or completely in the Ottawa - Hull CMA (census metropolitan area).

Select **Name Search** from the **GeoSuite Main Menu**.

The cursor will now be in the text box at the top of the screen. Type in the name Ottawa - Hull, for the CMA/CA on which you need information. The list below displays the CMAs/CAs in alphabetical order.

More than one Ottawa - Hull will appear in the list. Scroll to the Ottawa - Hull which is identified as a CMA/CA in the **Level** column. Click **Next**.

Select CB (census block) from the display window of lower geography levels. Click **Next**.

From the **Select fields** from table list, choose FED (federal electoral district).

From the **Available Fields** list, choose FEDname.

Click **No Duplicates** to eliminate duplicate records in the output data. Click **Next**. (Federal electoral districts contain many census blocks. Choosing **No Duplicates** assures that FED names will appear only once in the data output.)

A list of FEDs in the Ottawa - Hull CMA appears in the data output window.

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*.

The 2001 **GeoSuite** is a database containing 2001 Census population and dwelling count data by geographic area. The 2001 population and private occupied dwelling counts and related data are provided for standard geographic areas (see section on Lineage).

Data by the standard geographic areas are available in **Name Search**, **Code Search** and **Chart Search** options from the **Main Menu** in **GeoSuite** (refer to section 2). The user can also search in **Name Search** and **Code Search** by **locality** name (LOC). Localities are not a standard geographic area and no census data are available for them. For the 2001 Census, blocks, non-census metropolitan areas/census agglomerations and urban areas and rural areas have been added to the geographic hierarchy and enumeration areas have been replaced by dissemination areas.

In addition to the 2001 Census data, DA reference map lists, correspondence reports and a supplementary file containing the 1996 EA to 2001 DA correspondence (see section 3) are provided.

Most of the 2001 Census data in **GeoSuite** have been directly extracted from the ORACLE tables of the Query Base, a database maintained within Statistics Canada. Therefore, the quality of the data obtained by querying **GeoSuite** results from the quality of the Query Base, the extraction/derivation process and the **GeoSuite** software.

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.

All data in **GeoSuite**, excluding the reference map lists, were originally extracted from the ORACLE tables of the Query Base. The extraction from this database was done on February 8, 2002. The DA reference map lists were compiled during the production of the reference maps for the 2001 Census.

Pertinent information about the methods used in the production of the data in **GeoSuite** is provided below. For brevity, the lineage is described in terms of the various types of attribute information found in the database.

Geographic areas, their names and their types

Statistics Canada disseminates census data by standard geographic areas. These areas are either administrative or statistical.

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

- Canada (CAN)
- provinces and territories (PR)
- federal electoral districts (FEDs), (1996 Representation Order)
- census divisions (CDs)
- census subdivisions(CSDs)
- designated places (DPLs)

Statistical areas are defined by Statistics Canada as part of the spatial frame used to collect and disseminate census data. These include:

- economic regions (ERs)
- census consolidated subdivisions (CCSs)
- census metropolitan areas (CMAs) and non-census metropolitan areas (non-CMA)
- census agglomerations (CAs) and non-census agglomeration (non-CAs)
- census tracts (CTs)
- urban areas and rural areas (UARAs)
- dissemination areas (DAs)
- blocks

Geographic name data refer to the names given to standard geographic areas. Geographic names, however, are not given to all standard geographic areas. Named geographic areas include provinces and territories, economic regions, census divisions, census consolidated subdivisions, census subdivisions, census metropolitan areas and census agglomerations and non-census metropolitan areas/census agglomerations, designated places, urban areas and rural areas and federal electoral districts. Although census tracts do not have geographic names, they do have numeric names.

For provinces and territories as well as for economic regions, the database 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 1996 Representation Order of the Chief Electoral Office, Elections Canada.

For those census divisions and census subdivisions that respect the administrative fabric within the provinces, the sources of the names (and census subdivision types) were the provincial governments. Statistics Canada receives input from the provincial governments concerning all boundary, name and type changes to their respective municipal structure. The census reflects the administrative structure within provinces that was in effect on the geographic reference date of January 1, 2001[1].

[1] Due to operational constraints, Statistics Canada enforced a cut-off date of March 1, 2001 for the receipt of information concerning changes. This ensured that the changes would be instituted prior to Census Day, May 15, 2001.

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

For census consolidated subdivisions, names are derived from their component census subdivisions. The census consolidated subdivision's name coincides with the name of the largest census subdivision component in terms of land area.

The census metropolitan area or census agglomeration name is usually based on that of the largest urban centre(s) within the census metropolitan area or census agglomeration.

Locality names are not considered part of the standard geographic hierarchy. The primary sources of Statistics Canada's locality names are:

- names reported by the census representatives during the past censuses;
- historical census subdivision records (name changes/dissolutions); and
- names approved by the provincial and territorial authorities [federally represented by the Geographic Names Data Base (GNDB)].

Information on the delineation criteria for geographic areas as well as the sources of geographic names is provided in the *2001 Census Dictionary* (Catalogue no. 92-378-XPE).

Codes and unique identifiers

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

The system of geographic codes for provinces and territories, census divisions and census subdivisions is the **Standard Geographical Classification** (SGC). This classification system is a hierarchical coding system that provides a unique identifier for each level of this hierarchy. This coding system is developed by Statistics Canada and approved by provincial authorities.

For a census consolidated subdivision, the code is derived from the component census subdivisions. The census consolidated subdivision's code coincides with its largest census subdivision component in terms of land area.

The source of the geographic codes of federal electoral districts is the 1996 Representation Order of the Chief Electoral Office, Elections Canada.

All other codes are developed by Statistics Canada.

In **GeoSuite**, the unique identifier (uid) is a concatenation of geographic codes that uniquely identify standard geographic areas in Canada. For example, each dissemination area (DA) is assigned a four-digit code that is unique within a census division (CD).In order to uniquely identify each DA in Canada, the four-digit DA code must be preceded by the two-digit province code (PR) and the two-digit CD code. This concatenated code (PR + CD + DA) is called the DAuid.

The unique identifier is established by Statistics Canada.

2001 Census Population and 2001 Census Private Dwellings

The population and dwelling count data were derived from the 2001 Census. Population counts are determined according to the "de jure" method. This means that people are enumerated at their usual place of residence, regardless of where they may have been on Census Day, May 15, 2001.

The data were collected by census representatives for each block; the block counts were then tabulated based on the block's relationship to higher level geographic areas. Data for the higher level geographic areas reflect the boundaries in effect on January 1, 2001 (the geographic reference date for the census) and the population and dwelling counts as reported by census respondents on Census Day, May 15, 2001.

Refer to section on Completeness for details on the content of the population and dwelling count data.

See **Appendix A** for notes on the quality of the 2001 Census data.

2001 Census 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.

1996 Census population by 1996 Census boundaries

These are the population counts as enumerated in the 1996 Census according to boundaries that were in effect as of January 1, 1996.

These data are provided for all standard geographic areas except DAs and Blocks. (Since dissemination areas and blocks are new for this census).

Users are cautioned that these data are only provided for reference purposes in cases where the '1996 Census population by 1996 Census boundaries' is not the same as the '1996 Census population by 2001 Census boundaries'. Since data are provided by the 2001 Census boundaries and geographic structure, calculations on data from the 2001 **GeoSuite** should only be done using the 1996 data adjusted to the 2001 boundaries. Corrections made to the final 1996 Census data are reflected in the 1996 data adjusted to the 2001 boundaries.

1996 Census population by 2001 Census boundaries and the adjusted population flag

Users wishing to compare the 2001 Census data with those of other censuses should be aware that the boundaries of geographic areas may change from one census to another. In order to facilitate this comparison, the 1996 Census population counts are adjusted as needed to take into account boundary changes between the 1996 and the 2001 Censuses. The 1996 Census Population by 2001 Census Boundaries is also known as the 1996

adjusted population. Where the 1996 adjusted population counts did not equal the 1996 final population counts, the adjusted population flag was set to '1'. Most of these cases are the result of boundary changes; however, the '1' may also refer to corrections to the 1996 population counts which are reflected in the 1996 adjusted population counts.

In the case of census subdivisions, this flag is also set to '1' to identify newly incorporated municipalities (census subdivisions).

1996 adjusted population counts are provided for all levels of standard geography except for Urban Areas (UAs). The methodology for creating urban areas has changed since 1996 and therefore adjusted population counts are not applicable.

Incompletely enumerated Indian reserve flag for 2001 and 1996

On some Indian reserves and settlements during the 1996 and/or the 2001 Census, enumeration was not permitted or was interrupted before it could be completed. Moreover, for some Indian reserves and Indian settlements, the quality of the collected data was considered inadequate. These geographic areas (a total of 30 in 2001) are called incompletely enumerated Indian reserves and Indian settlements.

Data for 2001 are therefore not available for the incompletely enumerated reserves and settlements, and are not included in tabulations. Data for geographic areas containing one or more of these reserves and settlements are therefore noted accordingly. Because of the missing data, users are cautioned that for the affected geographic areas, comparisons (e.g. percentage change) between 1996 and 2001 are not exact. While for higher-level geographic areas (Canada, provinces, census metropolitan areas and census agglomerations) the impact of the missing data is very small, the impact can be significant for smaller areas, where the affected reserves and settlements account for a higher proportion of the population.

For the 1996 Census, there were a total of 77 incompletely enumerated Indian reserves and settlements. Data for the list of enumeration areas in incompletely enumerated Indian reserves and Indian settlements were suppressed. The higher level geographic areas with a component enumeration area on this list were also given an incompletely enumerated Indian reserve flag; these geographic areas were determined by the linkage between enumeration areas and higher-level geographic areas. The Indian reserve refusal flag indicates whether population and dwelling count data were suppressed for that geographic area (or part of it) for the 1996 Census.

Positional data

GeoSuite contains co-ordinates for block, dissemination area (DA), census subdivision (CSD) and designated place (DPL) **representative points**. These representative points are a single x,y **co-ordinate** that represents each geographic area. In **GeoSuite** the representative points are available in both Lambert projection and latitude/longitude.

DA reference map lists

The DA reference map lists were compiled during the production of the dissemination area reference maps for the 2001 Census. The lists were then provided for input to **GeoSuite**.

Reports

The reports in **GeoSuite** are derived based on the data extracted from the ORACLE Query Base.

Secondary province code

The secondary province (XPR) field in **Chart Search** is used to indicate which census metropolitan areas/census agglomerations (CMA/CA), and urban areas (UA) cross provincial boundaries. XPR is read in conjunction with the PR (code) field to obtain the names of these provinces. For example, the urban area of Flin Flon crosses Manitoba and Saskatchewan. The PR code shows the code for Manitoba and the XPR code shows the code for Saskatchewan.

In **Name Search** and **Code Search**, the other province is indicated as 'XProv'.

This field is derived based on data in the ORACLE Query Base.

Positional accuracy

Refers to the absolute and relative accuracy of the positions of geographic features. Absolute accuracy is the closeness of the co-ordinate 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 in **GeoSuite** are the block, designated place, dissemination area, and census subdivision representative points. All representative points are guaranteed, by an ARC/INFO™ topology check, to fall within the appropriate geography according to the Digital Boundary Files

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).

Name search, code search and chart search

Samples of all of the data in the **Name Search**, **Code Search** and **Chart Search** were checked against the ORACLE Query Base.

Errors in the final population and dwelling count data can result from the collection, processing or derivation of the data for higher level geographic areas. **Appendix A** describes the errors that can result from the collection and processing. Several quality assurance processes were done on the ORACLE Query Base on the derivation of the data for higher level geographic areas. Samples of population and dwelling count data from **GeoSuite** were checked against the ORACLE Query Base. No problems were detected in the comparison.

Land area data are subject to a number of errors, including measurement, coding and transcription, processing and overall, cumulative historic errors. The land area

measurements are unofficial and are provided for the sole purpose of calculating population density. (Please see Lineage and the Logical consistency section).

Numeric fields were exported and checked for accuracy. Data which are displayed as 'blank' in **GeoSuite** are exported as zero ('0'). This should be considered when using data from the population and dwelling count fields in **GeoSuite**.

Blank fields are displayed for the final 1996 population counts when the final 1996 population counts are the same as the adjusted 1996 population counts. Users are cautioned about this in using the final 1996 population counts (refer to section on Lineage).

Blank fields are displayed when population and dwelling count data are suppressed at the CSD and DA or block level due to the Indian reserve refusals or suppression rules. Since the population counts for Indian reserve refusal CSDs are not included in any of the census counts, the zero (blank) population at the CSD, DA and block level is consistent with the rest of the counts in **GeoSuite**. Refer to section on Completeness for more information on the effect of this suppression.

Name data were also exported and checked for accuracy.

The data in the reports section were verified against an independent derivation of samples of each of five types of reports from the ORACLE Query Base. All problems detected were corrected.

Logical consistency

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

Internal consistency

Consistency between the data at the various geographic levels was checked in the ORACLE Query Base from which **GeoSuite** data were extracted. These included checks to ensure that lower level counts could be summed to obtain higher level counts and checks to ensure that the Indian reserve refusal flag was applied in a consistent manner between the geography levels. For example, if the Indian reserve refusal flag was applied at the CSD level, then the check ensured that the flag was also applied for the province where the CSD was located.

2001 Census land area

Land area data are calculated and stored in square kilometres at the block level, and then aggregated to the higher level geographic units. Land area data for the standard geographic areas reflect the boundaries in effect on January 1, 2001 (the geographic reference date for the 2001 Census of Canada). Users should note that even when the boundaries of standard geographic areas did not change between the 1996 and 2001 Censuses, the land areas differ because the methodology for calculating land area has changed. Land area for 1996 was manually calculated using a planimeter, and for 2001, it is calculated using software applied to the new National Geographic Base. Users should also note that the land area for each geographic unit is an independent

aggregation from the block level. Consequently, if uses aggregate land areas differently—such as aggregating municipality (census subdivision) land areas to the provincial level, they may get results with minor differences from the values presented.

Population and dwelling counts data

The 2001 population and dwelling counts and the 1996 Census population by 2001 boundaries were tested to ensure that they could be summed up to a common higher geographic level. There were no errors found.

Users wishing to compare 2001 Census data with those of other censuses should take into account the fact that the boundaries of geographic areas may change from one census to another. In order to facilitate comparison, the 1996 Census population counts are adjusted as needed to take into account boundary changes between the 1996 and 2001 Censuses (refer to section on Completeness).

A detailed description of intercensal changes made to the geographic areas can be found in the publication entitled *Standard Geographical Classification, 2001, Volume I* (Catalogue No. 12-571-XPB).

Please note that the final 1996 population counts (the 1996 Census population by 1996 Census boundaries) for various geographic areas cannot be summed to a common higher geographic level. This is because these data are not provided for every geographic unit, and also, some 1996 Census geographic units no longer exist in the 2001 Census geographic structure. They are only shown in **GeoSuite** when the adjusted population count is not the same as the 1996 Census population by 1996 Census boundaries.

Users are also advised that when performing calculations (using the **Calculate** button), records with blanks in them for the variable are included in the calculations. The blank fields are simply set to zero in the calculation. For example, the average of a '2' and a blank would result in '1' and not '2'.

Hierarchy of geographic areas in the chart search section

The **GeoSuite** hierarchy shows urban areas (UAs) as parts of provinces. There were five exceptions for the 2001 Census where UAs cross provincial boundaries. These are:

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

The UA data is shown correctly in **GeoSuite**. For example, if a list of the UAs in Manitoba is selected, only the Manitoba portion of the population of Flin Flon will be shown on that list. (If the selection of UAs for a province is done by code then both the province code and the secondary province code should be considered.)

The **GeoSuite** hierarchy shows CMAs/CAs as parts of provinces. There were five exceptions for the 2001 Census where CMA/CAs cross provincial boundaries. These are:

- Campbellton (New Brunswick/Quebec)
- Hawkesbury (Quebec/Ontario)

- Ottawa - Hull (Quebec/Ontario)
- Pembroke (Quebec/Ontario)
- Lloydminster (Saskatchewan/Alberta)

The CMA/CA data are shown correctly in **GeoSuite**. For example, if a list of the CMA/CAs in New Brunswick is selected, only the New Brunswick portion of the population of Campbellton will be shown on that list. (If the selection of CMA/CAs for a province is done by code then both the province code and the secondary province code should be considered.)

GeoSuite shows the CSD parts of designated places (DPLs) and this is consistent with the hierarchy shown in **Chart Search**.

Consistency with other products

The population and dwelling counts in **GeoSuite** are consistent with those shown in the publication *A National Overview* (Catalogue No. 93-360-XPB). The '1996 Census population by 2001 boundaries' in **GeoSuite** is called '1996 Population' in the publication.

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.

Appendix B indicates the number of geographic units by province and territory. These numbers were checked on the **GeoSuite** files. **GeoSuite** contains the correct number of geographic areas.

The completeness of the specific data in **GeoSuite** is provided below.

Population and dwelling counts

The 2001 Census population counts for a particular area represent the number of Canadians whose usual place of residence is in that area, regardless of where they happened to be on Census Day. Also included are any Canadians staying in a dwelling in that area on Census Day and having no usual place of residence elsewhere in Canada, as well as those considered "non-permanent residents". In most areas, there is little difference between the number of usual residents and the number of people staying in the area on Census Day. For certain places, however, such as tourist or vacation areas, or those including large work camps, the number of people staying in the area at any particular time could significantly exceed the number of usual residents shown here. The population counts include Canadians living in other countries, but do not include foreign residents living in Canada (the "foreign residents" category does not include "non-permanent residents"). Given these differences, users are advised not to interpret population counts as being the number of people living in the reported dwellings.

For the 2001 Census, a private dwelling is defined as:

A set of living quarters designed for or converted for human habitation in which a person or group of persons reside or could reside. In addition, a private dwelling must have a source of heat or power and must be an enclosed space that provides shelter from the elements, as evidenced by complete and enclosed walls and roof and by doors and windows that provide protection from wind, rain and snow.

Care should be exercised in comparing the 2001 Census counts of total dwellings (including both occupied and unoccupied) with dwelling counts from the 1996 and earlier population and dwelling count releases. For 2001, the count of total dwellings in some areas is substantially higher than reported for the 1996 Census of Canada. The increase in the total number of dwellings between 1996 and 2001 is directly linked to our efforts to improve the coverage of seasonal dwellings. Based on our consultation process for 2001 and the requirements to simplify collection procedures and improve overall coverage of dwellings, the 2001 Census private dwelling definition was modified slightly from previous censuses to eliminate one criterion - access to a source of drinking water throughout the year. The result was that more private dwellings were counted in the 2001 Census - specifically more seasonal dwellings (secondary residences such as cottages, cabins and/or chalets) that now meet the private dwelling definition.

Some Indian settlements and Indian reserves were incompletely enumerated during the 1996 and/or 2001 Censuses. These reserves and settlements are identified wherever they appear in **GeoSuite** with the 1996 and/or 2001 Indian reserve refusal flag as appropriate.

The 2001 population and dwelling counts of any geographic area with a 2001 incompletely enumerated Indian reserve refusal flag, appears as a blank. The 1996 population of a geographic area with a 1996 incompletely enumerated Indian reserve flag appears as a blank.

Because of the missing data, users are cautioned that for the affected geographic areas, comparisons (e.g. percentage change) between 1996 and 2001 are not exact. While for higher level geographic areas (Canada, provinces, census metropolitan areas and census agglomerations) the impact of the missing data is very small, the impact can be significant for smaller areas where the affected reserves and settlements account for a higher proportion of the population.

Census subdivision type

Appendix C indicates the number of census subdivision types by province and territory. These numbers were checked on the **GeoSuite** files. **GeoSuite** contains the correct number of the census subdivision types.

5. Technical specifications

System requirements

GeoSuite requires the following minimum system requirements:

- Pentium processor
- 64 MB RAM, 128 MB RAM recommended
- Running Microsoft Windows 95/98/2000 or Windows NT or higher
- Hard disk with 20 MB for the application only; 150 MB for full installation including data
- SVGA monitor and graphics card (800 x 600, 256 colours or better)
- CD-ROM drive
- Mouse or compatible pointing device

Installation of GeoSuite

GeoSuite requires approximately 150 MB of disk space to install both the software and data. It can be installed on computers running Windows™ 95/98, Windows™ NT, or Windows™ 2000.

Note: It is strongly recommended that you close all running applications before installing **GeoSuite**. For Windows™ NT, you must be logged onto the system as the system administrator.

- Insert the CD-ROM into the CD-ROM drive.
- For Windows™ 2000: In the Program Manager, select **Run** from the **File** menu. For Windows™ 95/98/Windows™ NT: Select **Run** from the **Start** menu.
- Type **x:\GeoSuite.exe**, where ***x*** is the letter representing your CD-ROM drive. Then, click the **OK** button.
- Choose the language for the installation instructions. The language preference is for the installation instructions **only**. **GeoSuite** is a bilingual product and will prompt you to choose your language preference each time you run the program. **Note:** It is recommended that the installation language preference chosen be the same as your operating system.
- By default, the option to leave the **GeoSuite** data files on the CD/Network Drive is selected. To copy the data onto your hard drive, click on the empty circle to the left of this option and either accept or over-write the default location, or make the appropriate selection from the available lists.
- To view and print the **GeoSuite** User Guide, Adobe™ Acrobat™ Reader software is required. This box will already be checked if Acrobat™ Reader is not on your computer. For full Acrobat™ Reader installation instructions, see section below.
- Click on the **Install** button to run the installation program.
- Follow the instructions on the screen.
- **GeoSuite** Setup will inform you when the installation is complete. Click **OK** to finish the installation procedure.
- If you selected in to have the data copied to your computer, **GeoSuite** Setup will copy the data now. You will be informed when the data is copied. Click **OK** and **GeoSuite** Setup will now install the user guide icon. The user guide will remain on the CD-ROM; an Adobe™ Acrobat™ icon is created which points to that file.

GeoSuite Setup will inform you when the installation procedure is finished and the **Statistics_Statistique-Canada** program group will open.

- If you selected to have Acrobat™ Reader installed on your computer, then click **OK** to begin installation.

Installation of Adobe™ Acrobat™ Reader

- Adobe™ Acrobat™ Reader requires approximately 4.2 MB of disk space to be installed. It can be installed on computers running Windows™2000 , Windows™ 95/98, or Windows™ NT.
- An Adobe™ Acrobat™ Reader Installer license agreement will appear on the screen. Please read the terms of the agreement carefully. Click the **Accept** button to comply with the conditions noted in the agreement and proceed with the installation, or click the **Decline** button to quit Acrobat™ Reader Installer.
- By default, Acrobat™ Reader Installer will install the program in **C:\ACROREAD**. To install to a different directory/folder, type a new drive and/or directory in the **Target Directory** box. Click **Install** to continue or click Cancel to quit the installation.
- Follow the instructions on the screen.
- Acrobat™ Reader Installer will inform you when the installation procedure is finished. Click **OK** and the Adobe™ Acrobat™ program group will open.

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 **m**etropolitan area and census agglomeration **i**nfluenced **z**one (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.

Co-ordinate System
A co-ordinate system is a reference system based on mathematical rules for specifying positions (locations) on the surface of the earth. The co-ordinate 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 co-ordinates.

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 2001 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 2001 Census are based on the 1996 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 2001 Census, the geographic reference date is January 1, 2001.

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 2001 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	–	2,499
2,500	–	4,999
5,000	–	9,999
10,000	–	24,999
25,000	–	49,999
50,000	–	99,999
100,000	–	249,999
250,000	–	499,999
500,000	–	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: Data Quality, Sampling and Weighting, Confidentiality and Random Rounding

General

The 2001 Census was a large and complex undertaking and, while considerable effort was taken to ensure high standards throughout all collection and processing operations, the resulting estimates are inevitably subject to a certain degree of error. Users of census data should be aware that such error exists, and should have some appreciation of its main components, so that they can assess the usefulness of census data for their purposes and the risks involved in basing conclusions or decisions on these data.

Errors can arise at virtually every stage of the census process, from the preparation of materials through data processing, including the listing of dwellings and the collection of data. Some errors occur at random, and when the individual responses are aggregated for a sufficiently large group, such errors tend to cancel out. For errors of this nature, the larger the group, the more accurate the corresponding estimate. It is for this reason that users are advised to be cautious when using small estimates. There are some errors, however, which might occur more systematically, and which result in "biased" estimates. Because the bias from such errors is persistent no matter how large the group for which responses are aggregated, and because bias is particularly difficult to measure, systematic errors are a more serious problem for most data users than the random errors referred to previously.

For census data in general, the principal types of error are as follows:

- **coverage errors**, which occur when dwellings or individuals are missed, incorrectly enumerated or counted more than once;

- **non-response errors**, which result when responses cannot be obtained from a certain number of households and/or individuals, because of extended absence or some other reason;

- **response errors**, which occur when the respondent, or sometimes the Census Representative, misunderstands a census question, and records an incorrect response or simply uses the wrong response box;

- **processing errors**, which can occur at various steps including **coding**, when "write-in" responses are transformed into numerical codes; **data capture**, when responses are transferred from the census questionnaire in an electronic format, by key-entry operators; and **imputation,** when a "valid", but not necessarily correct, response is inserted into a record by the computer to replace missing or "invalid" data ("valid" and "invalid" referring to whether or not the response is consistent with other information on the record);

- **sampling errors**, which apply only to the supplementary questions on the "long form" asked of a one-fifth sample of households, and which arise from the fact that the responses to these questions, when weighted up to represent the whole population, inevitably differ somewhat from the responses which would have been obtained if these questions had been asked of all households.

The above types of error each have both random and systematic components. Usually, however, the systematic component of sampling error is very small in relation to its random component. For the other non-sampling errors, both random and systematic components may be significant.

Coverage Errors

Coverage errors affect the accuracy of the census counts, that is, the sizes of the various census universes: population, families, households and dwellings. While steps have been taken to correct certain identifiable errors, the final counts are still subject to some degree of error because persons or dwellings have been missed, incorrectly enumerated in the census or counted more than once.

Missed dwellings or persons result in **undercoverage**. Dwellings can be missed because of the misunderstanding of enumeration area (EA) boundaries, or because either they do not look like dwellings or they appear uninhabitable. Persons can be missed when their dwelling is missed or is classified as vacant, or because the respondent misinterprets the instructions on whom to include on the questionnaire. Some individuals may be missed because they have no usual residence and did not spend census night in a dwelling.

Dwellings or persons incorrectly enumerated or double counted result in **overcoverage**. Overcoverage of dwellings can occur when structures unfit for habitation are listed as dwellings (incorrectly enumerated), when there is a certain ambiguity regarding the EA boundaries or when units (for example, rooms) are listed separately instead of being treated as part of one dwelling (double counted). Persons can be counted more than once because their dwelling is double counted or because the guidelines on whom to include on the questionnaire have been misunderstood. Occasionally, someone who is not in the census population universe, such as a foreign resident or a fictitious person, may, incorrectly, be enumerated in the census. On average, overcoverage is less likely to occur than undercoverage and, as a result, counts of dwellings and persons are likely to be slightly underestimated.

For the 2001 Census, three studies are used to measure coverage error. In the Dwelling Classification Study, dwellings listed as vacant were revisited to verify that they were vacant on Census Day, and dwellings whose households were listed as non-respondent were revisited to determine the number of usual residents and their characteristics. Adjustments have been made to the final census counts for households and persons missed because their dwelling was incorrectly classified as vacant. The census counts may also have been adjusted for dwellings whose households were classified as non-respondent. Despite these adjustments, the final counts are still subject to some undercoverage. Undercoverage tends to be higher for certain segments of the population, such as young adults (especially young adult males) and recent immigrants. The Reverse Record Check Study is used to measure the residual undercoverage for Canada, and each province and territory. The Overcoverage Study is designed to investigate overcoverage errors. The results of the Reverse Record Check and the Overcoverage Study, when taken together, furnish an estimate of net undercoverage.

Other Non-sampling Errors

While coverage errors affect the number of units in the various census universes, other errors affect the characteristics of those units.

Sometimes it is not possible to obtain a complete response from a household, even though the dwelling was identified as occupied and a questionnaire was dropped off. The household

members may have been away throughout the census period or, in rare instances, the householder may have refused to complete the form. More frequently, the questionnaire is returned but no response is provided to certain questions. Effort is devoted to ensure as complete a questionnaire as possible. Census representatives edit the questionnaires and follow up on missing information. Their work is then checked by a supervisor and a quality control technician. Despite this, at the end of the collection stage, a small number of responses are still missing, i.e. **non-response errors**. Although missing responses are eliminated during processing by replacing each one of them by the corresponding response for a "similar" record, there remain some potential imputation errors. This is particularly serious if the non-respondents differ in some respects from the respondents; this procedure will then introduce a **non-response bias**.

Even when a response is obtained, it may not be entirely accurate. The respondent may have misinterpreted the question or may have guessed the answer, especially when answering on behalf of another, possibly absent, household member. The respondent may also have entered the answer in the wrong place on the questionnaire. Such errors are referred to as **response errors**. While response errors usually arise from inaccurate information provided by respondents, they can also result from mistakes by the Census Representative who completed certain parts of the questionnaire, such as the structural type of dwelling, or who followed up to obtain a missing response.

Some of the census questions require a written response. During processing, these "write-in" entries are given a numeric code. **Coding errors** can occur when the written response is ambiguous, incomplete, difficult to read or when the code list is extensive (e.g., major field of study, place of work). A formal Quality Control (QC) operation is used to detect, rectify and reduce coding errors. Within each work unit, a sample of responses is independently coded a second time. The resolution of discrepancies between the first and second codings determines whether recoding of the work unit is necessary. Except for the Industry and Occupation variables, much of the census coding is now automated, resulting in a reduction of coding errors.

The information on the questionnaires is typed into a computer file. Two procedures are used to control the number of **data capture errors**. First, certain edits (such as range checks) are performed as the data are keyed in. Second, a sample from each batch of documents is retyped and compared with the original entries. Unsatisfactory work is identified and corrected, and the remainder of the batch is captured as needed.

Once captured, the data are edited where they undergo a series of computer checks to identify missing or inconsistent responses. These are replaced during the imputation stage of processing where either a response consistent with the other respondents' data is inferred or a response from a similar donor is substituted. Imputation ensures a complete database where the data correspond to the census counts and facilitate multivariate analyses. Although errors may have been introduced during **imputation**, the methods used have been rigorously tested to minimize systematic errors.

Various studies are being carried out to evaluate the quality of the responses obtained in the 2001 Census. For each question, non-response rates and edit failure rates have been calculated. These can be useful in identifying the potential for non-response errors and other types of errors. Also, tabulations from the 2001 Census have been or will be compared with

corresponding estimates from previous censuses, from sample surveys (such as the Labour Force Survey) and from various administrative records (such as birth registrations and municipal assessment records). Such comparisons can indicate potential quality problems or at least discrepancies between the sources.

In addition to these aggregate-level comparisons, there are some micro-match studies in progress, in which census responses are compared with another source of information at the individual record level. For certain "stable" characteristics (such as age, sex, mother tongue and place of birth), the responses obtained in the 2001 Census, for a sample of individuals, are being compared with those for the same individuals in the 1996 Census.

Sampling Errors

Estimates obtained by weighting up responses collected on a sample basis are subject to error due to the fact that the distribution of characteristics within the sample will not usually be identical to the distribution of characteristics within the population from which the sample has been selected.

The potential error introduced by sampling will vary according to the relative scarcity of the characteristics in the population. For large cell values, the potential error due to sampling, as a proportion of the cell value, will be relatively small. For small cell values, this potential error, as a proportion of the cell value, will be relatively large.

The potential error due to sampling is usually expressed in terms of the so-called "standard error". This is the square root of the average, taken over all possible samples of the same size and design, of the squared deviation of the sample estimate from the value for the total population.

The following table provides approximate measures of the standard error due to sampling. These measures are intended as a general guide only.

Table: Approximate Standard Error Due to Sampling for 2001 Census Sample Data

Cell Value	Approximate Standard Error
50 or less	15
100	20
200	30
500	45
1,000	65
2,000	90
5,000	140
10,000	200
20,000	280
50,000	450
100,000	630
500,000	1,400

Users wishing to determine the approximate error due to sampling for any given cell of data, based upon the 20% sample, should choose the standard error value corresponding to the cell value that is closest to the value of the given cell in the census tabulation. When using the

obtained standard error value, the user, in general, can be reasonably certain that, for the enumerated population, the true value (discounting all forms of error other than sampling) lies within plus or minus three times the standard error (e.g., for a cell value of 1,000, the range would be 1,000 ± (3 x 65) or 1,000 ± 195).

The standard errors given in the table above will not apply to population, household, dwelling or family counts for the geographic area under consideration (see Sampling and Weighting below). The effect of sampling for these cells can be determined by a comparison with a corresponding 100% data product.

The effect of the particular sample design and weighting procedure used in the 2001 Census will vary, however, from one characteristic to another and from one geographic area to another. The standard error values in the table may, therefore, understate or overstate the error due to sampling.

Sampling and Weighting

The 2001 Census data were collected either from 100% of the households or on a sample basis (i.e. from a random sample of one in five households) with the data weighted up to provide estimates for the entire population. The information was collected on a 20% sample basis and weighted up to compensate for sampling. All table headings are noted accordingly. Note that, on Indian reserves and in remote areas, all data were collected on a 100% basis.

For any given geographic area, the weighted population, household, dwelling or family total or subtotal may differ from that shown in reports containing data collected on a 100% basis. Such variations are due to sampling and to the fact that, unlike sample data, 100% data do not exclude institutional residents.

Confidentiality and Random Rounding

The figures shown in the tables have been subjected to a confidentiality procedure known as **random rounding** to prevent the possibility of associating statistical data with any identifiable individual. Under this method, all figures, including totals and margins, are randomly rounded either up or down to a multiple of "5", and in some cases "10". While providing strong protection against disclosure, this technique does not add significant error to the census data. The user should be aware that totals and margins are rounded independently of the cell data so that some differences between these and the sum of rounded cell data may exist. Also, minor differences can be expected in corresponding totals and cell values among various census tabulations. Similarly, percentages, which are calculated on rounded figures, do not necessarily add up to 100%. Order statistics (median, quartiles, percentiles, etc.) and measures of dispersion such as the standard error are computed in the usual manner. When a statistic is defined as the quotient of two numbers (which is the case for averages, percentages, and proportions), the two numbers are rounded before the division is performed, except for income, owner's payments, value of dwelling, hours worked, weeks worked and age. For these variables, the two numbers in the quotient are not rounded. The sum is invariably defined as the product of the average and the rounded weighted frequency. It should also be noted that small cell counts may suffer a significant distortion as a result of random rounding. Individual data cells containing small numbers may lose their precision as a result.

Users should be aware of possible data distortions when they are aggregating these rounded data. Imprecisions as a result of rounding tend to cancel each other out when data cells are re-aggregated. However, users can minimize these distortions by using, whenever possible, the appropriate subtotals when aggregating.

For those requiring maximum precision, the option exists to use custom tabulations. With custom products, aggregation is done using individual census database records. Random rounding occurs only after the data cells have been aggregated, thus minimizing any distortion.

In addition to random rounding, **area suppression** has been adopted to further protect the confidentiality of individual responses.

Area suppression is the deletion of all characteristic data for geographic areas with populations below a specified size. The extent to which data are suppressed depends upon the following factors:

- If the data are tabulated from the 100% database, they are suppressed if the total population in the area is less than 40.

- If the data are tabulated from the 20% sample database, they are suppressed if the total non-institutional population in the area from either the 100% or 20% database is less than 40.

There are some exceptions to these rules:

- Place-of-work distributions and related statistics are suppressed if the total number of employed persons in the area is less than 40, according to the sample database. If the data also include an income distribution, the threshold is raised to 250, again according to the sample database.

- Tabulations covering both place of work and place of residence along with related statistics are suppressed, if the total number of employed persons in the area is less than 40 according to the sample database, or if the area's total population, excluding institutional residents, according to either the 100% or the sample database, is less than 40. If the tabulations also include an income distribution, the threshold is raised to 250 in all cases and the tabulations are suppressed if the number of private dwellings in the place of residence area is less than 10.

- Income distributions and related statistics are suppressed if the population in the area, excluding institutional residents, is less than 250 or if the number of private households is less than 10 from either the 100% or 20% database.

- If the data are tabulated from the 100% database and refer to six-character postal codes, they are suppressed if the total population in the area is less than 100.

- If the data are tabulated from the 20% sample database and refer to six-character postal codes, they are suppressed if the total non-institutional population in the area from either the 100% or 20% database is less than 100.

In all cases, suppressed data are included in the appropriate higher aggregate subtotals and totals.

The suppression technique is being implemented for all products involving subprovincial data (i.e. Profile series, basic cross-tabulations, semi-custom and custom data products) collected on a 100% or 20% sample basis.

For further information on the quality of census data, contact the Social Survey Methods Division at Statistics Canada, Ottawa, Ontario, Canada K1A 0T6, or by calling (613) 951-4783.

Appendix B: Geographic Units by Province and Territory

Geographic Unit	Canada		Nfld. Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	1996	2001													
Federal electoral district (1996 Representation Order)	295*	301	7	4	11	10	75	103	14	14	26	34	1	1	1
Economic region	74	76	4	1	5	5	17	11	8	6	8	8	1	1	1
Census agricultural region	78	82	3	3	5	4	14	5	12	20	8	8	–	–	–
Census division	288	288	10	3	18	15	99	49	23	18	19	28	1	2	3
Census consolidated subdivision	2,607	2,446	87	68	43	151	1,111	318	127	301	77	157	1	2	3
Census subdivision	–	5,600	381	113	98	275	1,476	586	298	1,002	452	816	35	37	31
1996 Census	5,984	–	381	113	110	283	1,599	947	298	970	467	713	35	68	N/A
Dissolutions (January 2, 1996 to January 1, 2001)	910	–	–	–	14	12	232	529	3	18	18	83	1	–	N/A
Incorporations (January 2, 1996 to January 1, 2001)	–	526	–	–	2	4	109	168	3	50	3	186	1	–	N/A
Designated place	828	1,261	182	–	59	172	78	81	51	158	260	219	1	–	–
Census metropolitan area	25	27	1	–	1	1	6	11	1	2	2	3	–	–	–
Census agglomeration	112	113	4	2	4	5	28	30	3	7	10	22	1	1	–
With census tracts	18	19	–	–	–	1	3	8	–	–	3	4	–	–	–
Without census tracts	94	94	4	2	4	4	25	22	3	7	7	18	1	1	–
Census tract	4,223	4,798	45	–	86	71	1,263	2,013	165	101	457	597	–	–	–
Urban area	929	913	36	7	39	34	229	258	42	65	108	93	1	3	3
Locality	N/A	52,291	2,428	964	3,920	3,445	12,448	10,889	2,339	3,868	3,466	7,699	362	173	290
Dissemination area	N/A	52,993	1,231	225	1,397	1,349	12,153	18,596	2,235	2,937	5,143	7,463	117	92	55
Enumeration area	49,361	42,851	1,204	225	1,337	1,216	9,133	14,753	1,805	2,697	4,129	6,088	117	92	55
Block	N/A	478,707	8,331	2,831	15,161	13,929	108,760	128,327	30,567	56,040	60,061	53,147	674	745	134
Block-face	817,734	3,764,232	80,162	19,854	168,840	136,311	865,600	955,847	200,569	377,776	435,604	499,365	10,644	12,304	1,356
Forward sortation area	1,477	1,595	33	7	74	110	398	518	64	47	147	188	3	3	3
Postal code	680,910	758,658	7,900	2,856	23,354	55,104	188,427	254,757	23,250	21,184	70,672	109,753	884	487	30

* Federal electoral districts (1987 Representation Order)

Note: Underlined numbers indicate that those census metropolitan areas, census agglomerations and urban areas crossing provincial boundaries are counted in both provinces.

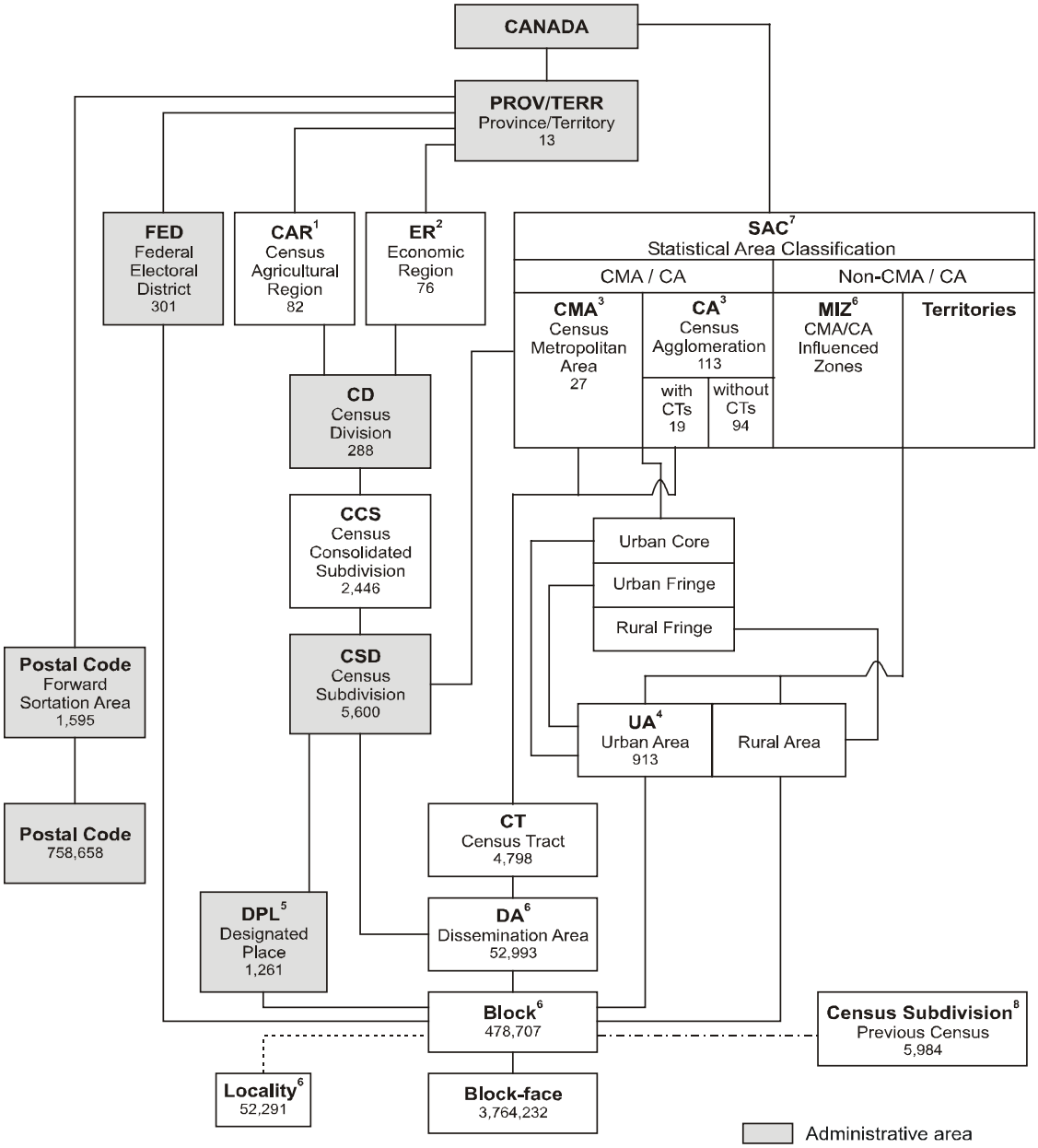
Appendix C: Census Subdivision Types by Province and Territory

Census Subdivision Type		Total	Nfld. Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
		5,600	381	113	98	275	1,476	586	298	1,002	452	816	35	37	31
C	City – Cité	148	3	2	–	7	2	51	8	14	15	44	1	1	–
CC	Chartered Community	2	–	–	–	–	–	–	–	–	–	–	–	2	–
CM	County (Municipality)	28	–	–	–	–	–	–	–	–	28	–	–	–	–
COM	Community	33	–	33	–	–	–	–	–	–	–	–	–	–	–
CT	Canton (Municipalité de)	66	–	–	–	–	66	–	–	–	–	–	–	–	–
CU	Cantons unis (Municipalité de)	7	–	–	–	–	7	–	–	–	–	–	–	–	–
DM	District Municipality	53	–	–	–	–	–	–	–	–	–	53	–	–	–
HAM	Hamlet	36	–	–	–	–	–	–	–	–	–	–	2	10	24
ID	Improvement District	8	–	–	–	–	–	–	–	–	8	–	–	–	–
IGD	Indian Government District	2	–	–	–	–	–	–	–	–	–	2	–	–	–
IM	Island Municipality	1	–	–	–	–	–	–	–	–	–	1	–	–	–
LGD	Local Government District	2	–	–	–	–	–	–	2	–	–	–	–	–	–
LOT	Township and Royalty	67	–	67	–	–	–	–	–	–	–	–	–	–	–
M	Municipalité	590	–	–	–	–	590	–	–	–	–	–	–	–	–
MD	Municipal District	48	–	–	12	–	–	–	–	–	36	–	–	–	–
NH	Northern Hamlet	9	–	–	–	–	–	–	–	9	–	–	–	–	–
NL	Nisga’a Land	1	–	–	–	–	–	–	–	–	–	1	–	–	–
NV	Northern Village	13	–	–	–	–	–	–	–	13	–	–	–	–	–
NVL	Nisga’a Village	5	–	–	–	–	–	–	–	–	–	5	–	–	–
P	Paroisse (Municipalité de)	265	–	–	–	–	265	–	–	–	–	–	–	–	–
PAR	Parish	152	–	–	–	152	–	–	–	–	–	–	–	–	–
R	Indian Reserve – Réserve indienne	1,047	1	4	24	19	31	145	78	169	88	487	4	2	–
RC	Rural Community	1	–	–	–	1	–	–	–	–	–	–	–	–	–

Continued on next page

Census Subdivision Type (Cont'd)		Total	Nfld. Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
RDA	Regional District Electoral Area	165	–	–	–	–	–	–	–	–	–	165	–	–	–
RG	Region	1	1	–	–	–	–	–	–	–	–	–	–	–	–
RGM	Regional Municipality	4	–	–	3	–	–	–	–	–	1	–	–	–	–
RM	Rural Municipality	417	–	–	–	–	–	–	120	297	–	–	–	–	–
RV	Resort Village	43	–	–	–	–	–	–	–	43	–	–	–	–	–
S-E	Indian Settlement – Établissement indien	28	–	–	–	–	5	6	4	1	4	3	5	–	–
SA	Special Area	3	–	–	–	–	–	–	–	–	3	–	–	–	–
SCM	Subdivision of County Municipality	28	–	–	28	–	–	–	–	–	–	–	–	–	–
SET	Settlement	31	–	–	–	–	–	–	–	–	–	–	13	15	3
SM	Specialized Municipality	2	–	–	–	–	–	–	–	–	2	–	–	–	–
SUN	Subdivision of Unorganized	90	90	–	–	–	–	–	–	–	–	–	–	–	–
SV	Summer Village	52	–	–	–	–	–	–	–	–	52	–	–	–	–
T	Town	794	286	7	31	27	–	111	52	147	110	15	3	4	1
TI	Terre inuite	10	–	–	–	–	10	–	–	–	–	–	–	–	–
TL	Teslin Land	1	–	–	–	–	–	–	–	–	–	–	1	–	–
TP	Township	245	–	–	–	–	–	245	–	–	–	–	–	–	–
TR	Terres réservées	9	–	–	–	–	9	–	–	–	–	–	–	–	–
UNO	Unorganized – Non organisé	147	–	–	–	–	110	17	11	2	–	–	2	2	3
V	Ville	271	–	–	–	–	271	–	–	–	–	–	–	–	–
VC	Village cri	8	–	–	–	–	8	–	–	–	–	–	–	–	–
VK	Village naskapi	1	–	–	–	–	1	–	–	–	–	–	–	–	–
VL	Village	647	–	–	–	69	87	11	23	307	105	40	4	1	–
VN	Village nordique	14	–	–	–	–	14	–	–	–	–	–	–	–	–

Appendix D: Hierarchy of Standard Geographic Units for Dissemination, 2001 Census



[1] Census agricultural regions in Saskatchewan are composed of census consolidated subdivisions.
[2] Economic regions in Ontario are composed of municipalities (census subdivisions).
[3] One CMA and four CAs cross provincial boundaries.
[4] Five UAs cross provincial boundaries.
[5] Designated places do not cover the total area of CSDs. Eighty-four DPLs cross CSD boundaries, of which 12 also cross CD boundaries.
[6] Census **m**etropolitan area and census agglomeration **i**nfluenced **z**ones (MIZ), dissemination area, block, and locality are new concepts for the 2001 Census.
[7] The Statistical Area Classification (SAC) is a new geographic classification that allocates each CSD according to whether it is a component of a CMA, CA, a census metropolitan area and census agglomeration influenced zone (MIZ), or the territories outside the CAs of Whitehorse and Yellowknife.
[8] For the 2001 Census only, a best fit linkage is created between the 1996 CSDs and 2001 blocks to facilitate historical data retrieval. See the definition of Census Subdivision – Previous Census.

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Geography Products and Services

This section provides brief descriptions of Geography products and services related to the 2001 Census. For additional details, consult the nearest Statistics Canada Regional Reference Centre.

1. Reference Maps

Reference maps show 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. Over 5,600 reference maps are available for the 2001 Census. Given the diversity in size of these geographic areas, different map scales and map coverages are required to show the appropriate level of detail. Descriptions of each series are provided with the individual catalogue entries below.

National Reference Maps

92F0172XCB Reference Maps – Complete Set, 2001 Census
92F0144XIB Census Divisions, 2001
92F0144XIB Economic Regions and Census Divisions, 2001
92F0144XIB Census Metropolitan Areas and Census Agglomerations, 2001
92F0144XIB Statistical Area Classification, 2001 Census Subdivisions
92F0152XPE Federal Electoral Districts (1996 Representation Order) Reference Map

92F0149XPB Census Division and Census Subdivision Reference Maps

The set of Census Division and Census Subdivision Reference Maps covers all of Canada, by province and territory. The maps show the boundaries, names and codes of census divisions (such as counties and regional districts) and census subdivisions (such as cities, towns, villages, other local municipal entities, townships and Indian reserves). The maps also show the boundaries of census metropolitan areas and census agglomerations. There are 22 maps that vary in scale (ranging from 1:310,000 to 1:3,500,000).

92F0145XPB Census Tract Reference Maps, by Census Metropolitan Area or Census Agglomeration

The series of Census Tract Reference Maps covers all 27 census metropolitan areas (CMAs) and the 19 census agglomerations (CAs) with census tracts. The maps show the boundaries and names of census tracts and census subdivisions, as well as the urban core, urban fringe and rural fringe within the CMAs or CAs. The maps include background information such as rivers, lakes, railroad tracks and provincial boundaries, and other significant features. There are 85 maps in the series, with one to four maps covering each CMA or CA. The map scales range from 1:25,000 to 1:2,000,000, and the maximum map dimensions are approximately 91 cm by 101 cm (36 inches by 40 inches).

92F0146XPB Dissemination Area Reference Maps, by Census Tract, for Census Metropolitan Areas and Census Agglomerations.

The set of Dissemination Area Reference Maps by Census Tract covers all 27 census metropolitan areas (CMAs) and the 19 census agglomerations (CAs) that are part of the census tract program. Each map in the set covers one census tract (CT) and shows the boundaries and codes of dissemination areas within that CT. The maps also show census tract, census subdivision, and census metropolitan area or census agglomeration boundaries

on a background of detailed street networks and other visible features such as rivers, lakes and railroad tracks.

There are approximately 4,800 maps in this set—generally one map per census tract. The dimensions of each map are approximately 27 cm by 43 cm (11 inches by 17 inches).

92F0147XPB Dissemination Area Reference Maps, by non-tracted Census Agglomeration
The set of Dissemination Area Reference Maps by Non-tracted Census Agglomeration covers the smaller census agglomerations that are not part of the census tract program. Each map in the set covers one census agglomeration (CA) and shows the boundaries and codes of dissemination areas within that CA. The maps also show the boundaries of census subdivisions (municipalities), as well as urban areas, and representative points for designated places. The maps include background information such as rivers, lakes, railroad tracks and provincial boundaries, and other significant features.

There are approximately 100 maps in this set—generally one map per census agglomeration (The maps vary in scale and size; the maximum map dimensions are approximately 91 cm by 101 cm (36 inches by 40 inches).

92F0148XPB Dissemination Area Reference Maps, by Census Division, for Areas Outside Census Metropolitan Areas and Census Agglomerations The set of Dissemination Area Reference Maps by Census Division covers areas outside census metropolitan areas (CMAs) and census agglomerations (CAs). Each map in the set covers one census division (CD) and shows the boundaries and codes of dissemination areas within that CD. The maps also show the boundaries of census subdivisions, census metropolitan areas and census agglomerations, as well as urban areas and representative points for designated places. The maps include background information such as rivers, lakes, railroad tracks and provincial boundaries, and other significant features.

2. Geographic Data Products

Geographic data products are those that contain 2001 Census population and dwelling counts.

93-360-XPB National Overview Tables, 2001 Census
The National Overview tables provide population and dwelling counts established by the 2001 Census of Canada. The levels of geography covered are Canada, provinces and territories, and other geographic areas including census subdivisions (municipalities), census metropolitan areas and census agglomerations. For selected geographies, the tables provide percentage change in the population and dwellings between 1996 and 2001. Data are also provided for land area and population density. Geographic Boundaries are those in effect on January 1, 2001.

92F0150XCB GeoSuite, 2001 Census
GeoSuite is a tool for data retrieval, query and tabular output, with software and data on a CD-ROM. GeoSuite allows users to explore the links between all standard levels of geography and to determine geographic codes, names, and population and dwelling counts. GeoSuite includes a dissemination area (DA) reference map listing that facilitates identification of appropriate DA reference maps.

92F0086XCB Postal Codes Counts
Note: Postal code products for the 2001 Census are currently under review. The planned release for these products is in the fourth quarter of 2002. Until that time, postal codes products containing 1996 Census data will continue to be available.

Postal Code Counts, 1996 Census contains population and dwelling counts for all six character postal codes reported by respondents. The population and dwelling counts are provided by individual postal code, by forward sortation area (FSA - the first three character of the six-character postal code) and by province or territory. The data are provided with Windows-based software that enables users to perform simple data manipulations such as searching the data set for specific postal codes, importing groups of postal codes for which counts are required and exporting groupings of postal codes. Documentation and reference material are contained in electronic form on the CD-ROM.

3. Spatial Information Products

Spatial information provides the shape and location of geographic features. The boundaries, road network and other features of standard geographic areas are available in digital form for mapping and geographic information system (GIS) applications. These products include Cartographic Boundary Files (CBFs), Road Network Files (RNFs) and Skeletal Road Network Files (SRNFs).

Cartographic Boundary Files (CBFs), 2001 Census
Cartographic Boundary Files (CBFs) contain the boundaries of standard geographic areas together with the shoreline around Canada and the larger inland lakes, all integrated in a single layer. The coordinates are latitude/longitude and are based on the North American Datum of 1983 (NAD83). The Cartographic Boundary Files for 2001 replace the Digital Cartographic Files produced for the 1996 Census.

Cartographic Boundary Files can be used with Census of Population, Census of Agriculture or other Statistics Canada data for data analysis and thematic mapping (with appropriate software). Geographic codes provide the linkage between the statistical data and the geographic area boundaries. CBFs can also be used to create new geographic areas by aggregating standard geographic areas, and for other data manipulations available with the user's software. The CBFs can be used with the Road Network Files and Skeletal Road Network Files, which provide additional geographic context for mapping applications.

92F0160XCE Provinces and Territories Cartographic Boundary File
92F0163XCE Federal Electoral Districts (1996 Representation Order) Cartographic Boundary File
92F0161XCE Census Divisions and Economic Regions Cartographic Boundary File
92F0167XCE Census Consolidated Subdivisions Cartographic Boundary Files
92F0162XCE Census Subdivisions Cartographic Boundary Files
92F0165XCE Designated Places Cartographic Boundary File
92F0166XCE Census Metropolitan Areas/Census Agglomerations Cartographic Boundary File
92F0168XCE Census Tracts Cartographic Boundary Files
92F0164XCE Urban Areas Cartographic Boundary File
92F0169XCE Dissemination Areas Cartographic Boundary Files

92F0159XCE Population Ecumene Census Division Boundary File, 2001 Census
The Population Ecumene Census Division Boundary File contains a generalised population ecumene based on 2001 Census population density data with at least one ecumene polygon for every census division (CD). It can be used to produce small-scale thematic maps of statistical data.

For the 2001 Census, a population ecumene was defined based on population density criteria at the block level. The resulting detailed population ecumene polygons were generalised and small, non-contiguous ecumene pockets were aggregated to ensure visibility for small-scale thematic mapping at the census division level (see Figure 9). When ecumene boundaries are used for dot and choropleth mapping, they give a more accurate depiction of the spatial distribution of data within standard geographic areas.

The Population Ecumene Census Division Boundary File is available as a standard package for Canada free on the Internet or it can be purchased on CD-ROM through the nearest regional office. This file is not a Cartographic Boundary File and it has its own reference guide.

92F0039XDE Forward Sortation Areas Boundary File
Note: Postal code products for the 2001 Census are currently under review. The planned release for these products is in the fourth quarter of 2002. Until that time, postal code products containing 1996 Census data will continue to be available.

The **1996 Census Forward Sortation Areas Digital Cartographic File** is available as a standard package for Canada. It depicts forward sortation area (FSA) boundaries derived from postal codes captured from the 1996 Census questionnaires. Through analysis of the postal codes reported by census households, a single FSA was assigned to each enumeration area (most often the FSA reported by the largest number of census households). FSA polygons were formed by grouping enumeration areas. Therefore, the Census based FSA boundaries are not equivalent to FSA boundaries in use by Canada Post, but are representations created from enumeration areas.

92F0157XCE Road Network Files (RNF), 2001 Census
Road Network Files (RNFs) contain a road layer for the entire country and a province/territory boundary layer. The road layer includes roads, with road names and address ranges (arc attributes), and geographic codes to identify blocks, census subdivisions, census metropolitan areas/census agglomerations, and provinces/territories (polygon attributes). Address ranges are mainly available in the large urban centres of Canada. The province/territory boundary layer incorporates hydrography (the shoreline around Canada and the larger inland lakes) with the boundaries and the geographic codes. The digital coordinates are in latitude/longitude and are based on the North American Datum of 1983 (NAD83).

Road Network Files are available for Canada, for individual provinces and territories, and for census metropolitan areas (CMAs) and those census agglomerations (CAs) with census tracts.

92F0158XCE Skeletal Road Network Files (SRNF), 2001 Census

The Skeletal Road Network Files contain selected roads (with road names, but no addresses) that are derived from Road Network Files (Catalogue No. 92F0157XCE). The selected roads are ranked according to four levels of detail (see Figure ?). The different levels of detail are suitable for mapping at small to medium scales. The SRNF can be used to provide some cartographic reference features when producing thematic maps with the Cartographic Boundary Files. The positional accuracy of the SRNF does not support cadastral, surveying or engineering applications. The SRNF does not include hydrography.

The Skeletal Road Network Files are available for Canada, provinces and territories, and census metropolitan areas (CMAs) and tracted census agglomerations (CAs).

4. Attribute Information Products

Attribute information products are those that give descriptive information about the features. The attribute files include Postal Code Conversion File (PCCF) and Postal Code by Federal Ridings File (PCFRF).

92F0027XCB Postal Code Conversion File (PCCF)

The Postal Code Conversion File (PCCF) provides a link between six-character postal code and standard 1996 Census geographic areas (such as enumeration areas, municipalities, census tracts). It also provides the x,y (latitude/longitude) coordinates for a point representing the approximate location of the postal code to support mapping.

The PCCF is available as standard packages for Canada, the provinces and territories, census metropolitan areas (CMAs) and some census agglomerations (CAs). A reference guide is included.

92F0027UCB Postal Code Conversion File (PCCF) – Update

The Postal Code Conversion File (PCCF) is updated with new postal codes on a semi-annual basis and is available in January and July. Clients must purchase the Postal Code Conversion File at the initial price; then subsequent updated files (92F0027UDB) may be purchased at the update or subscription rate. The update rate is a flat rate that in most cases is much lower than the initial purchase price. An additional 25% discount on updates is given to PCCF update subscribers. The subscription requires clients to pay in advance for at least one updated file per year until the PCCF reflecting the geography of the 2001 Census is released.

The PCCF Updates are available as standard packages for Canada and the provinces and territories. A reference guide is included.

92F0028XDB Postal Codes by Federal Ridings (1996 Representation Order) File

The Postal Codes by Federal Ridings File (PCFRF) provides a link between the six character postal codes and the federal electoral districts (1996 Representation Order). A federal electoral district (FED), commonly referred to as a federal riding, is an area represented by a Member of Parliament in the House of Commons.

The PCFRF is intended as a tool for use with administrative files containing postal codes. By using the postal code as a link, data from administrative files may be organised and/or tabulated by federal riding. This PCFRF allows a link of more than 680,000 postal code records to the 301 federal electoral districts.

The PCFRFs are available as standard packages for Canada and five regions. A reference guide is included.

92F0028XDB Postal Codes by Federal Ridings (1996 Representation Order) File (PCFRF) – Update
The Postal Code by Federal Ridings File (PCFRF) is updated with new postal codes on a semi-annual basis and is available in January and July. Updates released in July provide new postal codes effective January of the release year. Updates released in January provide new postal codes in use in July of the previous year. Clients who purchase the PCFRF (92F0028XDB) at the initial price may then purchase subsequent updated files (92F0028UDB) at the update rate (see Table 13 for details).

The PCFRF Updates are available as standard packages for Canada and five regions.

5. Geographic Services

A variety of services is available, including custom mapping, custom data extraction (geocoding) and the development of custom geography products.

97C0006 Geography Custom Service
If standard geography products do not satisfy a client's needs, the Geography Custom Service is available to produce non-standard geographic products. Examples include alternative packaging of geographic files, special data retrievals, manipulations or merges using any of the geography computer files (postal codes, attribute files, boundary files and road network files). Contact the nearest regional office for details.

97C0005 Custom Area Creation Service (formerly Geocoding Service)
The Custom Area Creation Service (formerly called Geocoding Service) allows users to define their own geographic areas of study (user-defined areas or aggregations of standard census geographic areas) for census data tabulations. This custom geography is produced from the aggregation of blocks, or where necessary, block-faces within the road network file coverage. The custom area files thus created are then passed to Census for data tabulation. Contact the nearest regional office for details.

97C0007 Geography Custom Mapping
Thematic maps and other maps, specially designed to meet customer needs, can be produced. Contact the nearest regional office for details.

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