

PCCF + Version 5C User's Guide

**Automated Geographic Coding Based on the
Statistics Canada Postal Code Conversion Files**

Including Postal Codes through March 2008

by

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ABSTRACT

PCCF+ Version 5 consists of a SAS control program and a series of reference files derived from the most recent Statistics Canada Postal Code Conversion File (PCCF) and a 2006 postal code population weight file (WCF). It automatically assigns a full range of geographic identifiers (down to dissemination area, dissemination block, and latitude, longitude) based on postal codes. It is consistent and logical in the way it does this. Any incorrect coding due to errors in the underlying reference files can easily be corrected once identified. To do such coding by manual methods would require highly skilled coders with much time and access to the full mailing address or property description. Even so, the results of manual coding would tend to be less accurate (particularly in urban areas), and they could inadvertently introduce systematic bias (especially in rural areas).

As long as the postal codes on the incoming file are valid for the corresponding addresses, *PCCF+* will usually generate highly accurate geographic coding. Manual geographic coding is no longer required except in very rare circumstances. Records for most postal codes which serve more than one dissemination area—including most rural postal codes and several classes of urban postal codes—are assigned geographic codes based on a population-weighted random allocation among the possible dissemination areas and blocks. This produces an unbiased allocation of events in relation to the resident population. However, because of the nature of the postal code conversion files, a few classes of valid postal codes (for which only the post office location is known) cannot be assigned full geographic identifiers corresponding to a place of residence or business. In such cases, as well as for postal codes that do not match exactly to the PCCF or WCF, the first two or three characters of the postal code are used to try to assign partial geographic identifiers to the extent possible. This takes care of many situations where the last one, two, or three characters of the postal code are invalid, but the first two or three characters are valid. Problem records include full diagnostic and reference information. Business and institutional addresses are clearly identified, which facilitates determining if the postal code corresponds to the client's usual place of residence (or business), or was the result of a keying or reporting error. An alternate version of the control program is also provided for better coding of the location of health facilities and professional offices, as opposed to places of residence, where that is desired.

Note: For authorized university research and teaching purposes, *PCCF+* is available under the Data Liberation Initiative (DLI). For general information on the DLI, including contact persons at each participating university, see the Statistics Canada website: www.statcan.ca (Learning resources / Postsecondary/Data Liberation Initiative). On the DLI FTP site, the *PCCF+* filenames are shown in the directory `-/health/pccf5C-fccp5C`.

For public health professionals in all levels of government across Canada, and those in NGOs and universities (excepting those in the private sector), the Public Health Agency of Canada offers free access to GIS resources licensed for redistribution, including PCCF and PCCF+. For more information, visit their website at www.phac-aspc.gc.ca/php-ppsp/gis_e.html, or contact them by email at gishelp@phac-aspc.gc.ca, or by telephone toll free at 1-877-430-9995.

For Statistics Canada internal use, see `\\geodepot2\ftp\Geographie_2006_Geography\Geo_Data_Products-Produits_de_données_Géo\PCCFplus_version5C_Mar08`

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GETTING STARTED

Introduction

To do automated geographic coding based on postal codes using *PCCF+*, all you need to do is follow Steps 1, 2 and 3 below. The rest of the documentation provides supplementary detail and background information which should be read eventually, but it is not essential to getting started. A list of **Abbreviations** begins on page 17, the **References** begin on page 19, and a **List of Appendices** available can be found on page 23.

If you want to find out what the program does and how it works before getting started, skip Steps 1-3, and begin reading at the section entitled **Origins and objectives of PCCF+**. Then come back to Step 1 when you are ready to begin coding.

Step 1: Getting set up

The *PCCF+* package consists of five SAS control files (the programs) plus several reference files derived mainly from the Statistics Canada Postal Code Conversion File (PCCF) and Weighted Conversion Files (WCF). To use the programs, you must first have installed SAS on to your computer and copied all of the files shown in Table 1 (on page 7) into your own directory. For residence coding, edit the program GEORES5x.SAS. For coding of health facilities or office locations, edit the program GEOINS5x.SAS.

Step 2: Identifying your input file (with postal codes to be assigned geography)

Your incoming data to be coded will be known to the programs as HLTHDAT. You must indicate to the program where to find your income file, by changing the shaded filename shown below to your own incoming *filename.ext* at the following line:

```
filename HLTHDAT 'c:\pccf5c\sampldat.can'; /* your input file */
```

Your incoming file can be sorted in any order or unsorted. Each logical record of the incoming file must contain a unique identifier (ID), plus a postal code (PCODE) if available. The postal code can have a space or hyphen between the first 3 characters (FSA) and the last 3 characters (LDU), or no space. Those fields can be anywhere in the file, but you must tell SAS where to find them, as in the following example:

```
DATA HLTHDAT0; INFILE HLTHDAT MISSEVER;
INPUT
  @ 5 ID          $CHAR8. /* UNIQUE IDENTIFIER OR REGISTRAT NUMBER */
                        /* IT CAN BE UP TO 12 CHARACTERS IN LENGTH */
  @ 88 FSA        $CHAR3. /* FSA (ANA)--FIRST 3 CHARACTERS OF PCODE */
  @ 92 LDU        $CHAR3.; /* LDU (NAN)--LAST 3 CHARACTERS OF PCODE */
PCODE=FSA|LDU; /* POSTAL CODE (ANANAN) */
```

The ID can be numerical, alphabetic or mixed. It can be up to 12 characters in length, and can be found anywhere in your file, as specified in the INPUT statement. If ID is more than 12 characters in length, the output file formatting would have to be modified. Records with the same ID but different postal codes will each be assigned geographic codes. *However, if the same ID and postal code appear in combination more than once, only one example of each combination will be retained.* The postal code can also be found anywhere in the file, with the FSA optionally separated from the LDU, or together.

Step 3: Naming the two output files produced

PCCF+ will produce two output files, one for all of the coded data, and a subset of that which contains the problem records (errors, warnings and notes). You must specify the name of these output files by changing the shaded filenames to the names you want your output files to be called. We suggest using the extensions GEO and PRB for these files, but you can use any extensions you wish.

```
filename HLTHOUT 'c:\pccf5c\sampldat.geo'; /* the main output file */
filename GEOPROB 'c:\pccf5c\sampldat.prb'; /* the problem file */
```

The first of these two output files, known to SAS as HLTHOUT, will contain the ID and postal code from your incoming HLTHDAT file, plus all of the geographic codes which the programs could successfully determine, and diagnostic fields to help you understand how the coding proceeded in each case.

The second output file, known to SAS as GEOPROB, will contain a subset of the HLTHOUT records, for any cases identified as errors, warnings or notes. To facilitate checking and correction, it will be sorted by type of problem (errors first, followed by warnings, followed by notes), then by delivery mode type (DMT), then by postal code. In the unlikely event that none of the HLTHOUT records were identified as potential problems (errors, warnings, or notes), then the GEOPROB dataset and corresponding file would be empty.

When Steps 1, 2 and 3 are completed, you will be ready to start assigning geographic identifiers to your file based on postal codes. If you are eager to get started, go right ahead. Just submit the SAS program. The rest of the documentation can be read later. To make the SAS printout easier to read, the page setup (under the file menu) should specify landscape orientation, and the print setup (also under the file menu) should specify font SAS monospace 8 point.

Step 4 (optional): Getting appropriate geographic coding for FSAs which were moved (V1H & V9G)

After completing Step 3 (running the program), check the printed output. Immediately following the Summary of Automated Coding Results (at the beginning of the .LST output), if your data contained any postal codes beginning with V1H or V9G which were moved south in 1997, you will see a table showing how many postal codes with each of those two FSA were involved. *If that table is present (and non-blank), then to get the appropriate geographic coding for those postal codes, you may need to run a supplemental program (R5xOLD for residential coding, or I5xOLD for institutional coding). Whether or not you need to run the supplemental program depends on the vintage of your postal codes (see Appendix C for how the vintage of a postal code is defined). If the vintage of your postal codes is 1 April 1999 or later, then use of the supplemental programs is unnecessary and will have no effect on the data.* In all other cases, if the results of Step 3 show problem postal codes beginning in V1H or V9G, you should run the supplemental program to ensure that the appropriate geographic codes are assigned.

First identify your input file, as you did in Step 2, except that this time the input filename will be the same as the HLTHOUT filename which you identified in Step 3.

Assuming that each record in your data has approximately the same vintage of postal code, then check the first input data step in R5xOLD or I5xOLD, and modify the value of PCVDATEC if required, as shown in the shaded area below. If your data contain no postal codes of vintage later than 1 June 1996, then do not change the value of PCVDATEC.

```
/* ONLY CHANGE DATE BELOW IF VINTAGE IS LATER THAN 19970601: */
PCVDATEC='19970601'; /* YYYYMMDD VINTAGE OF PCODES */
/* MM=01-12; DD=01-31 ONLY-NOT 00 OR 99 */
```

When you have completed the above, submit the supplemental program. Depending on the vintage of your postal codes, some, none or all of the geographic coding for postal codes beginning with V1H and/or V9G may be changed to correspond to their former location.

The rest of this step is needed only if each record of your data may have a different vintage of postal code, so that the global change of the PCVDATEC as shown above is not appropriate. But if (as will most often be the case) the global change was appropriate, then stop here.

If each record of your data may have a different vintage of postal code, then append that date to the end of each HLTHOUT record output by GEORES5x or GEOINS5x, and then revise the first input data step in R5xOLD or I5xOLD to include the following line:

```
@ nmn PCVDATEC $CHAR8.; /* YYYYMMDD VINTAGE OF PCODE */
```

And in that case, don't forget to delete the semicolon at the end of the old input statement, and to comment out the line (just below the end of the input statement) that defines PCVDATEC as a constant. Do the latter by adding the SAS comment characters as shown in the shaded text below:

```
/* PCVDATEC='19970601'; */ /* YYYYMMDD VINTAGE OF PCODES */
```

Table 1 Files included in PCCF+ Version 5x

Filename / PC filename (if different)	Description
GEORES5x.SAS	SAS PROG (RESIDENCE CODES)
GEOINS5x.SAS*	ALT SAS PROG (OFFICE CODES)
R5xOLD.SAS#	SAS PROG OLD FSAs (RESIDENCE CODES)
I5xOLD.SAS#*	ALT SAS PROG OLD FSAs (OFFICE CODES)
DIST5x.SAS	CALCULATES MINIMUM DISTANCE TO CLOSEST OF MANY LAT LONG
EXPLODE2.SAS + GROUPED.TXT	TRANSFORMS COUNT DATA TO EQUIVALENT INDIVIDUAL RECORDS
FIXPCBAD.SAS + PCBAD.TXT	FIX COMMON ERRORS IN CANADIAN POSTAL CODES.
BLDG9606.EGMRES.CAN	POSSIBLE RES FOR DMT E G M
BLDG0803.TXTF1EZ3.CAN	BLDG NAMES & ADDRESSES
CPADR.NADR0803.CAN	NUMBER ADDRESS RANGES FOR PCODE
GEOREF06.ARDEF.CAN	AGRICULTURAL REGION (CROP DISTRICT) DEFINITIONS
GEOREF06.ARNames.CAN	AGRICULTURAL REGION (CROP DISTRICT) NAMES
GEOREF06.DB06EADA.CAN	2006 DISSEMINATION BLOCK TO 1981-2001 EA/DA
GEOREF06.CCSSAC.CAN	CENSUS CONSOLIDATED SUBDIVISION DEFS, SACTYPE, SAC
GEOREF06.CCSNames.CAN	CENSUS CONSOLIDATED SUBDIVISION NAMES
GEOREF06.CDNames.CAN	CENSUS DIVISION NAMES
GEOREF06.CSDNames.CAN	CENSUS SUBDIVISION NAMES
GEOREF06.CSIZE06.CAN	COMMUNITY SIZE BASED ON 2006 CMACA POP (INCL CMA NAMES)
GEOREF06.DABLK06.CAN	BLOCKS WITHIN DISSEMINATION AREAS
GEOREF06.DABLKPNT06.CAN	POINTER TO BLOCKS WITHIN DISSEMINATION AREAS
GEOREF06.DPLNames.CAN	DESIGNATED PLACE NAMES
GEOREF06.ERDEF.CAN	ECONOMIC REGION DEFINITIONS
GEOREF06.ERNames.CAN	ECONOMIC REGION NAMES
GEOREF06.FEDNames.CAN	FEDERAL ELECTORAL DISTRICT
GEOREF06.GTF06.CAN	GEOGRAPHIC ATTRIBUTES AT BLOCK LEVEL
GEOREF06.HRDEF07L.CAN	HEALTH REGIONS DEFINITIONS
GEOREF06.HRNames05C.CAN	HEALTH REGION NAMES AND POPULATIONS
GEOREF06.INSTFLG.CAN	INSTITUTIONAL FLAG
GEOREF06.NSREL96.CAN	NORTH SOUTH RELATIONSHIP (BASED ON 1996 PRDCSD)
GEOREF06.SUBDEF07L.CAN	HEALTH DISTRICT DEFINITIONS
GEOREF06.SUBNAM5C.CAN	HEALTH DISTRICT NAMES
*GEOREF06.THDIST2.COD	TORONTO HEALTH PLANNING AREA NAMES AND CODES
*GEOREF06.THPA06DA.DEF	TORONTO HEALTH PLANNING AREA DEFINITIONS
GEOREF06.DB01DA06.CAN	2001 CENSUS DISSEMINATION BLOCK TO 2006 DISSEMINATION AREA
MSWORD.FCCP5x.PDF	PCCF+ USER GUIDE-FRENCH
MSWORD.FMT5xGEO.DOC	MS Word SHELL FOR PRINTING THE MAIN OUTPUT FILE (.GEO)
MSWORD.FMT5xPRB.DOC	MS Word SHELL FOR PRINTING THE PROBLEM FILE (.PRB)
MSWORD.PCCF5x.PDF	PCCF+ USER GUIDE-ENGLISH
PCCFyymm.BCVUNI.Q.CAN#	PCODES PRIOR TO MOVE--OLD FSAs
PCCFyymm.CPCOMM.CAN	CANADA POST COMMUNITY NAMES
PCCFyymm.DUPS.CAN	ALL OCCURRENCES DUPLICATE PCODES
PCCFyymm.FSAGEOG.CAN	GEOGRAPHY AT EACH FSA
PCCFyymm.FSAGEO1.CAN#	GEOGRAPHY AT EACH FSA-OLD FSAs
PCCFyymm.FSA12GEO.CAN	GEOGRAPHY AT EACH FSA12
PCCFyymm.FSA12GE1.CAN#	GEOGRAPHY AT EACH FSA12-OLD FSAs
PCCFyymm.POINTDUP.CAN	POINTER TO 1ST DUPLICATE PCODE
PCCFyymm.RPO.CAN*	RURAL POST OFFICE LOCATIONS
PCCFyymm.UNIQ.CAN	PCODES UNIQUE ON PCCF
PCCFyymm.WCFPOINT.CAN	POINTER TO 1ST DUPLICATE PCODE ON WCF
PCCFyymm.WCFUDUPS.CAN	ALL OCCURRENCES DUPL+UNIQUE PCODES ON WCF
PCCFC06.WCFBLK.CAN	BLOCKS SERVED BY WCF POSTAL CODES
PCCFC06.WCFBLKPT.CAN	POINTER TO BLOCKS SERVED BY WCF POSTAL CODES
PCCFC06.FSAPOINT.CAN	POINTER TO 1ST DUPLICATE FSADABLK
PCCFC06.FSAUDUPS.CAN	ALL OCCURRENCES DUPL+UNIQUE FSADABLK
SAMPLEDAT.CAN	SAMPLE DATA FOR TESTING PROGRAMS
SERVICES.IGE	TEST DATA FOR PROGRAM DIST4x.SAS
PCBAD.TXT	TEST DATA FOR PROGRAM FIXPCBAD.SAS
SESREF.QAIPE06.CAN	IPPE QUINTILES WITHIN CMACA (BASED ON 2006 CENSUS DATA)

Note: Provincial or regional subsets of the reference files will end with one of the following extensions in place of CAN: NF NS PE NB PQ ON MB SK AB BC YT NT NU ATL PRA WES. (For the meanings of the filename extensions, see page 17.) For best results, all of the files used should have the same extensions.

* An asterisk following a filename indicates that it is only needed for office coding.

A number sign following a filename indicates that it is only needed for coding FSAs which have been moved. PCCFyymm replaced by PCCF0803 (March 2008), etc. GEORES5x GEOINS5x replaced by GEORES5C GEOINS5C (Version 5C), etc.

HOW THE PACKAGE WORKS

Origins and objectives of PCCF+

PCCF+ consists of two SAS control programs (GEORES5x for residential coding, GEOINS5x for office coding) and a series of reference files derived from the Statistics Canada *Postal Code Conversion File* (PCCF), the *Postal Code Population Weight File* (WCF) and other sources. It automatically assigns a full range of geographic identifiers (PR CD CSD CMA CT DA BLK LAT LONG etc.) based on postal codes. It is consistent and logical in the way it does this. *PCCF+* uses techniques developed over a period of years for research studies at Statistics Canada. Any incorrect coding due to errors in the underlying reference files can easily be corrected once identified. To do such coding by manual methods would require highly skilled coders with much time and access to full mailing addresses. Even so, the results of manual coding would tend to be less accurate (particularly in urban areas), and they could inadvertently introduce systematic bias (especially in rural areas).

Version 1: 1986 Census geography; equal weight to each duplicate record

Version 2: 1991 Census geography; 2B (20% sample) household weights for most duplicate records

Version 3: 1996 Census geography; 2A (100% count) population weights for most duplicate records

Version 4: 2001 Census geography, 2A (100% count) population weights for most duplicate records

Version 5: 2006 Census geography, 2A (100% count) population weights for most duplicate records

Objectives

At their place of residence, 24% of the Canadian population use postal codes which are vague and ambiguous with respect to location (see **Table 2**, page 22), or which are only linked to post office location. This is the biggest problem facing geographic coding from Canadian postal codes. For example, about 20% of the population uses rural postal codes (which each serve an average of about 1100 persons), 3% use rural route services from urban post offices, and 1% use small post office boxes. For the other 76% of Canadians, the vast majority use postal codes presenting little or no problem with respect to geographic coding, which can usually be done with great precision. For example, for the most common category of service—letter carrier delivery to a private dwelling—only about 30 people share the same postal code. However, a few classes of urban postal codes are primarily used by businesses and institutions, and may or may not be valid as a place of residence. It is important to identify and deal with the various sorts of problems represented by each of the above categories, and that is what *PCCF+* does, or helps you to do, as summarized below.

- Deal with community mail boxes and other sources of duplicate records on the PCCF (DMT A, B).
- Identify postal codes which may be used by businesses or institutions (DMT E, G, M).
- Provide geographically unbiased coding despite the great ambiguity of rural postal codes and rural routes from urban post offices (DMT W, H, T).
- Provide geographically unbiased coding for persons or organizations using small PO boxes at urban post offices (DMT K), and for those using General Delivery at urban post offices (DMT J).
- Provide client site coding (vs PO location) for institutions using large PO boxes (DMT M).
- Deal with retired postal codes, taking into account problems related to previous DMT.
- Provide for translation across different vintages of census geography.

Bells and whistles

- Use the FSA to impute or partially impute geographic coding where the postal code is not found or is only linked to post office geography.
- Use the first 1 or 2 characters of the postal code for partial imputation if FSA not found.
- Provide information which may help in correcting erroneous or problematic postal codes, or for finding geographic codes by other means (if possible); try to furnish enough information so that the user can decide whether to accept or reject the coding suggested, if correction of the underlying problem is not possible or feasible.
- For postal codes which may or may not refer to a place of business (DMT E, G, or M), flag records for postal codes known to serve non-residential addresses, and flag those known to serve residential addresses.
- For areas consisting primarily of collective dwellings, indicate the predominate type of dwelling (hospital, nursing home, prison, etc.).

Operational requirements

- Provide detailed diagnostics indicating how the coding was done, what problems were encountered, and how ambiguous the postal code was (especially re CD and CSD codes).
- Document everything in a detailed *User's Guide*.
- Make it simple to use by persons with little or no previous knowledge of geography or computers, and small enough to run regional subsets on unsophisticated personal computers.

- Update semi-annually following release of new vintages of the PCCF.

What's new in Version 5C?

Full geographic coding is now done to 2006 vintage census geography, using 2006 census population weights where required. 2006 geography replaces the 2001 census geography. Although the new PCCF separates retired from active postal codes, they are all included in PCCF+, though still flagged as retired if appropriate.

QAIPPE is NW based on 2006 income data.

Three fields newly added to the regular PCCF—related to the quality of the postal conversion process at Statistics Canada—were ported to PCCF+. POINSTAL, QILEVEL, GMETHOD.

Canada Post Air Stage offices are now flagged: AIRLIFT.

EA or DA from all census geography vintages since 1981 are now included (EA81uid, EA86uid, EA91uid, EA96uid, DA01uid, DA06uid).

All but one (AIRLIFT) of the new variables are appended to the end of the file (beginning with position 117), so the record layout up to that point is almost unchanged. (except CT is now length 7 vs 6 previously)

Health regions and health districts: updated definitions with a reference date of December 2007.

What was new in Version 4J?

Updated to include postal codes through to the end of September 2006. A combined variable (CSIZEMIZ) has been added, showing both urban size group (CSIZE) plus rural metropolitan influence zone (MIZ). A new field for the 2006 dissemination area has been appended (DA06uid), based on the 2001 census block information. Alberta health district (sub-RHA) coding has been added, based on a DA approximation of the definitions which came into effect in 2005, and Alberta health regions are now numbered according to the provincial standard.

What was new in Version 4H?

Routine update to include postal codes through to the end of March 2006.

What was new in Version 4G?

Routine update to include postal codes through to the end of October 2005. For the Federal Electoral Districts, 2003 Representation Order (FED2003), riding names and definitions have been updated to include changes in 2004 and 2005. Ontario health region (HR) definitions have been updated to include changes through August 2005 (LHIN Version 11).

What was new in Version 4F?

Health region and health district definitions have been updated to 1 June 2005 reference date (Statistics Canada, *Health Indicators, June 2005*, catalogue 82-221-XIE; Statistics Canada, *Health Regions 2005: Boundaries and Correspondence with Census Geography*, catalogue 82-402-XIE). Most notable changes were in Newfoundland and Labrador (amalgamation of four regions into two; other regions unchanged), Nova Scotia (definition of 9 district health authorities as subsets of health zones), Ontario (district health councils abolished in favour of 14 local health integration networks (LHINs); one public health unit dissolved and split between two other units), and Alberta (boundary change between two regions). There were also name changes for 2 health regions in Québec.

Population weights for rural areas now include estimates for under enumerated Indian reserves.

What was new in Version 4D?

In Version 4D, a new field was added at the end of the main output file for the federal electoral district--2003 representation order (FED2003). Those were the ridings used for the June 2004 federal election. The health district (SUB) field once again identifies CLSCs in Québec, based on the best fit of each census dissemination area. Numerous corrections to programming and files resulted in better coding for urban and rural areas.

What was new in Version 4A?

In Version 4, coding is to 2001 census standard geography, using 2001 census population weights when required. By contrast, Version 3 coding was to 1996 census geography, using 1996 census population weights when required.

For 2001 census, the dissemination area has replaced the enumeration area as the lowest standard level of geography for most data dissemination purposes. However, dissemination areas are built up from census blocks, which are the basic geographic

units required for the definition of health regions, health districts, federal electoral districts, designated places, and the census urban and rural area typology, as well as for best fit correspondence to previous census geographies. So for geographic coding purposes, the dissemination area plus census block replaces the enumeration area, and that change is reflected in *PCCF+* Version 4. Block-level coding is much more precise than enumeration area-level coding, but the file sizes are much larger now than previously (478,707 blocks versus 49,361 EAs in 1996), so execution time of the programs has noticeably increased.

In previous census geographies, the federal electoral district code was an integral part of the enumeration area code (PRFEDEA), which was lowest standard level of geography for both geographic coding and data dissemination purposes. For the 2001 census geography, the enumeration area is used only for data collection purposes, so it has been dropped from *PCCF+* Version 4. The federal electoral district code has been retained, but it has been moved to near the end of the file. Note that for the 1996 census, the federal electoral district representation order was that of 1987, while for the 2001 census, it changed to the 1996 representation order.

The 2001 census population weight file allows for population-weighted random allocation among multiple dissemination areas served by a single postal code. As with previous versions of *PCCF+*, this is done for several classes of postal codes (those with delivery mode types of H through Z) which mainly provide service to rural residents. Then within the randomly selected dissemination area, an additional population-weighted random allocation is performed to select a single block from among the multiple census blocks in that dissemination area. The latter routine is new for Version 4, as it is required for defining several of the geographic levels of major interest to users.

When imputations of geographic coding are required based on the first three characters of the postal code (the forward sortation area or FSA), a complete set of geographic codes down to dissemination area and block are imputed from rural as well as urban FSAs. Previously, a complete set of codes was only imputed for urban FSAs.

The definitions of health regions (HR) and health districts (SUB) have been updated to reflect recent changes in some provinces, as well as the new census geographic concepts.

An updated neighbourhood income quintile field (QAIPPE) is based on 2001 census data by dissemination area.

The community size field (CSIZE) has been updated, based on 2001 census populations. This field classifies census metropolitan areas and census agglomerations by population size, and the residual area not in any census metropolitan area or census agglomeration--also known as "rural and small town Canada" (Plessis et al, 2001).

A new field for the statistical area classification type (SACTYPE) has been added. This field distinguishes among census metropolitan areas (all of which are tracted), tracted versus untracted census agglomerations, and the residual area not in any census metropolitan area or census agglomeration ("rural and small town Canada"), with the latter further classified by the relative importance of commuting flows to work in any census metropolitan area or census agglomeration--also known as "metropolitan influence zones" or MIZ.

A new field defining the North-South relationship (NSREL) in Canada has been added. This field distinguishes South from South transition, North transition and North. It is based on methods described by Puderer and McNiven (2000).

A new field for the rural-urban block (BLKURB) has been added. This is an alternate way of defining urban and rural, based on the population density of each census block, which permits both urban and rural areas to be defined within as well as outside of census metropolitan areas and census agglomerations. Note however that in the vast majority of rural areas, the census block and dissemination area are imputed based on population-weighted random allocations among the many such units known to fall within the postal code service area, so this field should only be used with due caution for the definitional difficulties. Classification based on urban postal codes is much more certain, as the specific block is almost always known with much greater certainty. This field is defined as follows: `IF UARA GE 9910 THEN BLKURB=0; ELSE IF UARA NE . THEN BLKURB=1.`

A new field for economic region (ER) has been added. Economic regions (formerly known as "subprovincial regions") are defined as aggregates of adjacent complete census divisions except in Ontario, where in one case an ER is defined as an aggregate of adjacent census subdivisions, but splitting census division boundaries.

A new field for census agricultural region (AR) has been added. ARs are defined as aggregates of complete adjacent census divisions, except in Saskatchewan, where they are defined as aggregates of adjacent census consolidated subdivisions, without respect to census division boundaries.

A new field for census consolidated subdivision (CCS) has been added. CCSs are defined as aggregations of adjacent census subdivisions within a given census division.

The various categories of the representative point flag field (RPF) have been redefined to correspond with the new 2001 census geography concepts.

The enumeration area collective dwelling field (EACOLL) and the enumeration area comment flag field (EACMTFLG) have been deleted, since enumeration areas are now used only for data collection purposes, and no longer appear on the PCCF+ output files. In its place, a new field (INSTFLG) has been added to help identify records likely to be for institutional residents.

A supplemental program (DIST4x.SAS) has been added to calculate distances from each postal code on one output file (usually the result of GEORES4x.SAS), to the closest of many postal codes on another file (which would usually be the output of GEOINS4x.SAS). Typically this would be used for calculating distances from residences to some kind of health facility or health professional. Basic familiarity with SAS programming is required for use of this supplementary program.

What was new in version 3E?

Health regions (HR) and health district (SUB) codes were assigned based on the enumeration area code, if present. If an enumeration area code was not present, then the program attempted to assign health region and health district codes based on the census subdivision code, if known, as long as 90% or more of the census subdivision population resided in a single health region or health district.

Canada Post recently moved two FSAs in British Columbia: 100km south in the case of V9G, and 400 km south in the case of VIH. This means that the vintage of the postal code must now be taken into account in order to correctly assign geography in such cases. Thus, the main programs (GEORES3E & GEOINS3E) were revised to assign only the most current geographic codes for those cases, and supplementary programs (R3EOLD & I3EOLD) were written to assign the old geographic coding where required, depending on the vintage of the postal codes (which can be specified). The supplementary programs also print out a summary of the corrections and problems encountered in the recoding, if any, and merge the corrections back into a revised main file. To explain how to use the supplementary programs, and to determine whether or not their use is required, a new Step 4 (optional) was added to the Getting Started section of the documentation.

To further increase the functionality of the output files, community size (CSIZE) codes are now assigned based on the census metropolitan area and census agglomeration code (the CMA field, which includes CA codes). Also, to demonstrate the ease of attaching geographically-coded variables from other data sets (such as summary data from the quinquennial census), neighbourhood income quintile (QAIPPE) codes are now assigned, based on the enumeration area code.

The CPCCODE field (a sequential numeric code corresponding to the Canada Post Community Name) was fully implemented. In previous versions, records which were coded by the weighted conversion file (WCF) were not assigned a CPCCODE, but beginning with Version 3E, all records with a valid postal code have had it assigned.

The main output files (dataset HLTHOUT) are identical in format to those produced by Version 3D, except for the addition of the 4 new fields (HR SUB CSIZE QAIPPE) appended to the end of the record, as noted in the revised documentation. The output of the supplementary programs (R3EOLD and I3EOLD) also include 3 additional fields (BTHDATEC RETDATEC PCVDATEC) appended to the end of the record.

The problem file output was modified slightly by reducing the latitude and longitude fields each to 2 digits in order to leave enough room to show the HR and SUB fields.

The documentation was revised to reflect the above changes.

What was new in Version 3 (all other updates)?

- Version 3 produced output coded to 1996 Census standard geography, whereas Version 2 coded to 1991 census standards, and Version 1 coded to 1986 census standards.
- Whenever possible, 1996 2A (100%) population weights were used for postal codes served by rural post offices, or by rural routes, PO boxes, and suburban route service from urban post offices. However, 1991 2B (20% sample) household weights were used for such postal codes if they were not part of the 1996 census population weight file.
- EAs were imputed for rural as well as most urban postal codes. However, imputation of EA from urban FSAs (new in Version 2) was no longer performed for postal codes linked to post office geography, for which the service area or users might be outside the nominal FSA boundaries.
- New fields were added, but all of the former fields were retained, as was the “look and feel” of the programs. The only change to the definitions of former fields is for problem (PROB) type 2 (unused since Version 1), which was redefined as a Warning (rather than Error as formerly) when the postal code was improbable as a place of residence. The PROB field has been renamed LINK, so that the meaning of the field values will be intuitive: LINK=0 means no link, and LINK=9 means best link. Latitude and longitude were shown with much greater precision (degrees + 6 places after the decimal rather than degrees + 4 places previously). The field CCSUM was no longer written to the files, but it was still calculated for the printouts.

DPL	A field for Designated Place (DPL) code was added. This was a new sub-municipal level of geography with the 1996 census.
RESFLG	Postal codes for addresses which were improbable as a place of residence were now flagged (RESFLG), as are postal codes for business and institutional type addresses which appeared to be possible places of residence.
EACOL	A field for Enumeration Area Collective Dwelling (EACOL) type was added. This field identified EAs which were specific to hospitals, nursing homes, prisons, etc.
EACMT	An Enumeration Area Comment (EACMT) could occur in the problem file output if other address information was not available. The comment field usually named the collective dwelling, business or institution specific to that EA. A flag field (EACMTFLG) identified EAs for which such comments were available in the G96EACMT file.

Five new diagnostic fields were added. The first three were derived from the PCCF, while the last two were derived from other sources:

DMTDIFF	A new field based on the previous DMT (DMTDIFF) allowed retired postal codes to be used without fear of overlooking problems related to the previous DMT.
RPF	The Representative Point Flag (RPF) indicated the precision of the underlying geographic linkage (to BLKFACE or EA, and single or multiple links in each case).
SERV	The Canada Post Service Type code (SERV) distinguished route service with street address from route service without street address.
PREC	The precision (PREC) of latitude and longitude coordinates was indicated with respect to the service area of the postal code, as well as with respect to the blockface or EA nature of the coordinates, and with respect to the nature of the imputation required (if any). 0=least precise; 9=most precise.
NADR	The number of address ranges (NADR) served by a postal code was usually one, but might be many. For example, community mail boxes and rural route services usually refer to several address ranges, while most other urban postal codes refer to only one address or address range.

Because of these changes, the record layout for the last section of both output files was changed.

The source program code was still written in SAS, and was easily modifiable—for example, to reduce the printed output by deleting frequency tabulations of each field. As before, the source program was self-documenting to facilitate understanding of what the program actually did and didn't do.

Preliminary versions of supplemental files and model programs were made available for translating back and forth between 1991 and 1996 census geographies.

What was new in Version 2?

Version 2 of PCCF+ (*Geocodes/PCCF*) incorporated several significant improvements over the original version.

- Manual geographic coding was no longer required for records with valid postal codes, except in very rare circumstances (< 1%). Previously, about 10-15% of records with valid postal codes could not be coded to census tract and enumeration area without manual intervention. Now most postal codes for rural routes from urban post offices, for post office boxes (group of boxes), as well as for suburban service and general delivery, could automatically be assigned the full complement of geographic codes available for other types of postal codes.
- Records with postal codes which serve more than one enumeration area—including most rural postal codes and several classes of urban postal codes—were assigned geographic codes based on a household-weighted random allocation among the possible locations. This produced an unbiased allocation of events in relation to the resident population. An alternative program could be chosen which would assign all rural postal codes to village centres.
- Problem records now included better diagnostic and reference information. Fields indicating the source of the matching and the number of different levels of geographic codes assigned were added, in addition to the previously available fields which indicated the type of problem, the number of census divisions and census subdivisions served by the postal code, and the DMT.
- Business and institutional addresses were more clearly identified. The problem records for most such cases showed the building, company, or institutional establishment name and brief address—which helped determine if the postal code corresponds to the client's usual place of residence (or business), or was the result of a keying or reporting error.

- "Most likely" partial geographic coding based on the first two characters of the postal code was suggested (where possible) for records with invalid postal codes. Previously, such coding was attempted only if the first three characters were valid.
- For geographic coding of the location of health facilities and health professionals, an alternate SAS control program (GEOINS4x) and one additional file (RPO) were provided. With the alternate program and file, records with rural postal codes were assigned to the same enumeration area as the rural post office.

How the reference files were produced

To develop the reference files used, the PCCF was pre-processed as follows. First the file was analyzed to determine which postal codes were unique, and which occurred more than once on the file (linked to more than one dissemination area, block or blockface). The unique postal codes were then separated from the duplicate codes. Only the essential fields of the PCCF were retained, to reduce disk storage and memory requirements. Canada Post community names were assigned numeric codes so the names could be moved off to a much smaller, non-redundant auxiliary file. Census subdivision names (but not the corresponding numeric SGC codes) were also removed to a much smaller, non-redundant auxiliary file. Additional reference files were created to show the relationship of the first three characters of the postal code to corresponding census divisions, census subdivisions, census metropolitan areas/census agglomerations, census tracts, enumeration areas, and latitude/longitude. A similar file was created showing the relationship of the first 2 characters of the postal code to the most frequently corresponding census geography and latitude/longitude. Other files were created for matching postal codes to a subset of the 1991, 1996, 2001 and 2006 Postal Code Population Weight Files or Weighted Conversion Files (WCF), which are based on census population or household counts by postal codes and census geography. For Version 5, missing block codes are assigned by population-weighted imputation from dissemination area, if available. A building name and address file was constructed to help check the validity of postal codes for problem records related to business, commercial and institutional establishments. Using census data plus visual inspection of building names, postal codes for addresses which are improbable as a place of residence were flagged, as were postal codes for business and institution-type addresses which appear to be possible places of residence. Health region and health district codes were obtained from provincial health departments. When necessary, dissemination area and block approximations to the definitions were created. A file showing neighbourhood income quintiles within each census metropolitan area or census agglomeration (CMACA) or provincial rural and small town areas was created, based on dissemination area summary data from the 2006 census. Community size groups were determined, based on the 2006 census population in each CMACA. Areas outside of any CMACA were taken as the smallest community size group ("rural and small town Canada").

What the package does

The result is a set of related files, which together with the SAS control programs provided, can be used for automated coding of most records with a valid postal code. As long as the postal codes on your incoming file are valid for the addresses, *PCCF+* will generate highly accurate geographic coding for your data. However, because of the nature of the PCCF and WCF, a few classes of valid postal codes still cannot be assigned full geographic identifiers corresponding to a place of residence or place of business. In such cases, as well as for postal codes that do not match exactly to the PCCF or WCF, the first three characters of the postal code are used to try to assign partial geographic identifiers to the extent possible. If that fails, then the first two characters of the postal code are tried.

In each case where *PCCF+* encounters a possible problem with its automated coding, diagnostic codes are output to the problem file, together with any partial geographic identifiers which may have been determined. The program listing prints out the problem records grouped by type of problem; the records themselves follow a brief printed message describing the problem and suggesting how to correct it. Usually the first thing to do is to check the postal code to make sure that it was correctly entered, and to see that the postal code shown is the correct one for the address.

Why it is important to have accurate postal codes

The coding produced by *PCCF+* is only as good as the postal codes on your incoming data file. The *Postal Code Directory* issued by Canada Post, or computerized versions of the directory (available from various sources), can be used to find missing postal codes as well as to validate or correct existing postal codes on your file. With computerized versions, the reverse lookup of address ranges from postal codes is an effective and efficient way of validating postal codes for incomplete or incorrectly spelled addresses. Note that in addition to its troublesome consequences for geographic coding, the absence of a valid postal code on your file could adversely affect any later follow up which might be required. Moreover, the delivery of mail by Canada Post may be delayed or impossible without a valid postal code.

How the matching process works

The routines in GEORES5x are for assigning geographic codes for places of usual residence. Similar routines in GEOINS5x can be used to assign geographic codes for locations of health facilities or offices of health professionals.

The SAS control program for residential coding is explained below; procedures which apply only to office coding are shown in italics:

- (1) First, rural postal codes and postal codes served by rural route delivery or suburban services from urban post offices, or which indicate a group of post office boxes or a single post office box, are matched to a subset of the Weighted Conversion File (WCF)--consisting of about 75,000 records for 12,000 different postal codes. As most such codes serve more than one dissemination area, the geographic codes are assigned randomly in proportion to the distribution of population with that postal code, as seen in the WCF. *For coding of office locations, etc., the GEOINS5x program omits the rural postal codes from this step, so that they can all be assigned to the same dissemination area as the rural post office.*
- (2) Second, remaining postal codes which are unique on the PCCF (only linked to a single dissemination area, block or blockface) are matched to corresponding codes on the incoming HLTHDAT file. There are about 560,000 of these unique codes for all Canada, including most urban postal codes. *For coding of office locations, rural postal codes together with their corresponding post office geography (File RPO) are added at this point, since those records are also unique.*
- (3) Then postal codes which are not unique on the PCCF (over 260,000 different postal codes for which about 1.4 million PCCF records exist, including each of the multiple occurrences of the same postal code) are matched to the remaining records from the HLTHDAT file. Most urban postal codes and some rural postal codes which are not unique on the PCCF (in the sense that they link to more than one dissemination area, block or blockface) are nonetheless not ambiguous in terms of higher levels of geography such as CD, CSD or CMA, CT. To avoid "many-to-many" matching, the matching in this part of the program is done in two steps: (a) Each remaining HLTHDAT record (not already matched to the WCF or to the PCCF unique file) is matched by postal code to a pointer file (POINTDUP) which contains a single record for each postal code which occurs more than once on the PCCF. The pointer file shows how many times the postal code occurs, and the physical location (observation number) of the first occurrence of that postal code on the DUPS file. (b) The information on the POINTDUP file is used to match each successive HLTHDAT record with the next occurrence of that postal code on the DUPS file. This has the effect of distributing events for such postal codes across all possible dissemination areas, blocks or blockfaces which are served by that postal code--with equal weight assigned to each PCCF record.
- (4) Because block codes are required for coding of HR SUB FED UARA, missing block codes are now assigned based on population-weighted imputation from the dissemination area code, if that is available.
- (5) Error records are then identified and processed as follows: (a) Any record with a postal code which did not match on all 6 characters to the PCCF is identified as an error record (LINK=0). (b) Records with postal codes which matched to the PCCF or WCF, but whose DMT is M or X are also identified as error records (LINK=1), since the PCCF only indicates their post office location. (c) The geographic codes for error records are set to missing values. (d) Using auxiliary files, an attempt is then made to assign highly probable CMA, CD and CSD codes, plus CT and DA for urban postal codes. Coding will be suggested based on the first 3 characters of the postal code (FSA), or failing that, based on the first 2 characters of the postal code. PR (only) may be assigned based on the first character of the postal code.
- (6) Health region and health district codes are then assigned by matching to DA, or to DA and BLK, if required.
- (7) Neighbourhood income quintiles within each CMA or CA (QAIPPE) are then assigned, based on the DA. Note that neighbourhood income data are not available for DAs made up of institutional collective dwellings.
- (8) Community size codes (CSIZE) are then assigned, based on CMA or CA populations from the 2001 census. Statistical area classification type (SACTYPE) codes are assigned, based on the CMA or CA code (for SACTYPES 1-4) plus the PRDCSD (for SACTYPES 5-8). Economic region (ER) codes are assigned, based on the PRCD (or PRDCSD in Ontario only). Agricultural region (AR) codes are assigned based on PRCD (or PRDCSS in Saskatchewan only). A residence flag is assigned by matching to PCODE to identify non-residential versus residential postal codes among postal codes whose DMT is E, G or M.
- (8b) 1981, 1986, 1991 and 1996 enumeration area codes are assigned using 2006 block to EA/DA correspondence files.
- (9) All records with their corresponding geography (to the extent found) are output to the HLTHOUT (.GEO) file. If some or all geographic codes could not be determined, those fields are set to missing values before writing to the

HLTHOUT (.GEO) file. See **Appendix A** for the record layout, and **Appendix C** for an explanation of the fields and codes.

- (10) A smaller file (GEOPROB) is then created containing: records with postal codes which could not be matched on all 6 characters (LINK type 0: error); records with postal codes for a Delivery Mode Type (DMT) which is only linked to post office location on the PCCF (LINK type 1: error), and for which census location data were not available on the WCF; records where the DMT frequently indicates a non-residential address (LINK types 3 and 4: warning); records for postal codes known to indicate a non-residential address (LINK type 2: warning); records which could have been assigned more than one CSD based on the unweighted PCCF (LINK type 5: note); records which could have been assigned to more than one CSD based on the WCF (LINK type 6: note). See **Appendix B** for the record layout, and **Appendix C** for an explanation of the fields and codes.
- (11) A one page summary of what happened, including the number of records in each link type above is printed in the program listing, together with suggestions as to what to do in each case. The summary also shows the distribution of records by the number of geographic codes which were assigned. See **Appendix D** for sample output.
- (12) Frequency counts of the occurrence of each value of the main fields are printed out. This is done first for the entire HLTHOUT dataset, and then for the GEOPROB subset.
- (13) The entire problem dataset (GEOPROB) is printed out. In this case, the spacing of the printout mirrors that of the corresponding file. See **Appendix D** for sample output.
- (14) The first 500 records from the output dataset (HLTHOUT, including fully coded, partially coded, and uncoded records) are printed out. The printout includes one field which is not present in the output dataset: DISTANCE, which was calculated for illustrative purposes only. See **Appendix D** for sample output.

How the programs deal with multiple matches

Version **5** of PCCF+ has two different ways of dealing with multiple matches--where a single postal code can be linked to more than one dissemination area, block or blockface. (1) For rural postal codes (with a 0 in the second position) and for urban postal codes with a delivery mode type (DMT) of H, K, M,T and Z, a subset of the WCF is used whenever possible to make a population-weighted random distribution of records among the applicable geographic areas served. In this way, if 75% of the population served by a postal code was known to be in DA 1001, then on average, 75% of the records will be assigned to that DA. Next, within the randomly selected DA, a specific block is selected, using weights based on total block population in the blocks served in whole or in part by the postal code. (2) For other types of postal codes with multiple matches possible, equal weight is given to each dissemination area, block or blockface. Successive events at such a postal code are coded in turn to each applicable dissemination area, block or blockface. *For office coding only, rural postal codes are always assigned to the dissemination area and block to which the PCCF single link indicator (SLI) is assigned.*

In most cases, a full mailing address would not allow any greater accuracy in the determination of CSD, and using only the city or community name line of the address for coding purposes would tend to bias the results towards whichever CSD had a name most similar to that of the postal community. The result would be the often-noted "hot spots" surrounded by "cold spots".

In summary, then, whenever a postal code can be linked to more than one CSD, an explanatory message is printed, the record is output to the problem file (as a Note only), and a systematically selected CSD code is written out to both the main file (HLTHOUT) and the problem file (GEOPROB). *For office coding, links to more than one CSD are rare, since rural postal codes are assigned to the dissemination area and block to which the PCCF SLI is assigned.*

How the programs deal with reuse of postal codes (beginning with Version 3E)

After a period of retirement, postal codes are sometimes rebirthed by Canada Post for reuse at a new location. Such reuse may also entail a change of DMT. Reuse of postal codes occurs most frequently, but not exclusively, in areas undergoing rapid expansion which was not foreseen by Canada Post planners when the FSA structure was initially created. However, in almost all cases, reuse of postal codes occurs within the same FSA, and most frequently within a very short distance of the former use. Thus, reuse of postal codes is not normally a problem, and the birth date and retirement date of postal codes is not part of the usual processing of postal codes in the GEORES5x and GEOINS5x programs. In the late 1990s however, two entire FSAs in British Columbia were first retired, and then moved by Canada Post (approximately 100 km south in the case of V9G, and 400 km south in the case of VIH). So the main programs (GEORES5x and GEOINS5x) were revised to assign only the most current geography to records with those two FSAs. Supplemental programs (R5xOLD and I5xOLD) were written to read the output of the main program, and reassign the old geographic coding where required, based on the vintage of the postal codes (which may be specified by the user). Users with less than current data from British Columbia will thus need to run the main program (eg. GEORES5x) followed by the supplemental program (eg. R5xOLD). The results from the supplemental program are automatically merged back into the data output from the main program. However, if your data do not include postal codes

with those FSAs, or if you data only contain postal codes of vintage 19990401 or later, then use of the alternate programs is unnecessary and will have no effect on the coding produced by the regular programs GEORES5x and GEOINS5x.

How to indicate unknown or partially unknown postal codes

If the postal code for a given record does not match exactly to any postal code on the PCCF, *PCCF+* will attempt to assign partial geography based on the first 1, 2 or 3 characters the unmatched postal code. Thus, you should give some thought to how unknown or partially complete postal codes should be indicated on your incoming file. If you were to assign the non-existent postal code H0H0H0 (ho-ho-ho!) to records with missing (and unfindable) postal codes, then those records would all be assigned PR 24 and CMA 462, since nearly all postal codes beginning with H are from metropolitan Montréal, Québec. Even worse, the non-existent postal code H9H9H9 would be assigned to PR 24, CMA 462 and CD 65 (Île de Montréal), since that is the only place legitimate codes beginning with H9H are found. If only the province of residence is known, be sure to indicate the corresponding first letter (for example, B for Nova Scotia) in the initial position of the postal code field, so that the province and region code (PR) will be generated and written to the output files and listings.

How to run *PCCF+*

To do automated geographic coding based on postal codes using *PCCF+* all you need to do is follow steps 1, 2 and 3 at the beginning of this *User's Guide*. The rest of the documentation provides supplementary detail and background information which should be read eventually, but which is not essential to getting started.

Future versions of *PCCF+*

For each new version of the PCCF, which is to be released semi-annually, a corresponding update of *PCCF+* will be produced. Supplementary files and sample programs for EA<=>DA+BLK translation across census years are now available (contact Russell Wilkins for more information).

Verification of geographic coding produced by *PCCF+*

Table 3 (page 21) shows the population-based error percentages for each level of geography, for coding produced by *PCCF+* Version 3 (R3A) compared to coding from the PCCF Single Link Indicator (SLI), and compared to population-weighted coding from FSA only. In each case, the "gold standard" is a 1% sample of the census population and corresponding postal codes collected in the 1996 Census of Canada. The error percentages are consistently smaller for the *PCCF+* method, compared to the SLI method, at all levels of geography. At the CSD level, for example, the SLI error percentage is three times higher than that produced by *PCCF+*. At the CT level (mostly in urban postal codes areas), the SLI did much better than at the CSD level, but the error percentage was still over 40% higher compared to *PCCF+*.

However, if the only objective is to assign codes as close as possible to the real census DA centroids (whether or not the population is distributed among all applicable areas), then the SLI method may be somewhat more accurate, at least beyond the 75th percentile of distance.

WHERE TO GET HELP

Technical assistance

Any technical problems noted with the functioning of these programs or suggestions for improvements to the programs or documentation should be addressed to Russell Wilkins, Health Information and Research Division, Statistics Canada, RHC-24A, 100 Tunney's Pasture Driveway, Ottawa, Ontario K1A 0T6, telephone 1-613-951-5305, fax 1-613-951-3959, email russell.wilkins@statcan.gc.ca. If corresponding by email, be sure to include your telephone number and mailing address.

Canadian Vital Statistics and Cancer Registry users *only*: For copies of the control programs and/or provincial or regional subsets of the Canada files, or operational problems getting started using the programs, please contact Colette Brassard, Operations and Integration Division--Health, Statistics Canada, JT2-B20, Ottawa, Ontario K1A0T6; telephone 1-613-951-1850, fax 1-613-951-0709, email colette.brassard@statcan.gc.ca. Colette can also handle technical questions related to PC-SAS running under UNIX, DOS or Windows.

Suspected problems with the PCCF or *PCCF+*

If you have identified possible errors in coding, please look at the SOURCE diagnostic code. If the SOURCE code is F, D or V you may have identified possible errors on the Postal Code Conversion File, so please report these to the Geography Division of Statistics Canada, which is responsible for the creation, maintenance and updates to the PCCF. Include a list of the postal codes which you find suspicious, the geography assigned by the PCCF, and an indication of the nature of the

problem (which fields appear to be wrong?). Contact the GeoHelp desk, Geography Division, Statistics Canada, JT3-B6, Ottawa, Ontario K1A0T6, telephone 1-613-951-3889, fax 1-613-951-0569, email geohelp@statcan.gc.ca.

If on the other hand the SOURCE code is C, I, 3, or 2, the problem is not with the PCCF itself, but rather with the supplementary files created by the Health Analysis and Measurement Group. The same applies to problems with the RESFLG or diagnostic codes (LINK, SOURCE, NCS, NCD, RPF, PREC, NADR, CODER, CPCCODE). For all such cases, contact Russell Wilkins at the address noted above.

ADDITIONAL REFERENCE INFORMATION

Acceptable characters and numbers in Canadian postal codes

The first character must be in A B C E G H J K L M N P R S T V X Y. The third and fifth characters may be any character valid for the first position, plus W and Z. The second, fourth and sixth positions may be any single numeric digit (0-9). Acceptable syntax does not guarantee that the postal code will be valid; many combinations have never been used. See Appendices F1, F2 and F3 for acceptable characters or combinations of characters in the first 1, 2 or 3 positions, respectively.

Filename extensions

The filename extensions have the following meaning:

CAN	Canada
NF or NL	Newfoundland and Labrador
PE	Prince Edward Island
NS	Nova Scotia
NB	New Brunswick
QC	Québec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia (including data for YT and NT)
YK or YT	Yukon
NT	Northwest Territories
NU	Nunavut
ATL	Atlantic region (NF NS PE NB)
PRA	Prairie region (MB SK AB)
WES	Western region (MB SK AB BC YT NT NU)
DOC	Documentation (in MS Word format)

Abbreviations

Some of the abbreviations used in this documentation and programs are as follows:

AIRLIFT	Canada Post Air Stage community, requiring airlift delivery at least 6 months per year.
ANANAN	Alpha numeric alpha numeric alpha numeric (format of Canadian postal codes)
AR	Census agricultural region (short for PRAR)
BLKF	Blockface (not identified except by latitude longitude and RPF)
BLKURB	Urban block within CMACA area or non-CMACA area
CA	Census agglomeration (included in CMA field)
CCHS	Canadian Community Health Survey
CCS	Census consolidated subdivision (short for PRCDCCS)
CD	Census division (a county-level code; short for PRCD)
CMA	Census metropolitan area (this field also includes CAs)
CODER	PCCF+ program, version and release (eg, R5A=GEORES5A)
CPCCODE	Canada Post community code (corresponding to a postal community name)
CSD	Census subdivision (a municipal-level code; short for PRDCSD)
CSDNAME	Name of CSD (unique within province and CSDTYPE).
CSDTYPE	Type of CSD.
CSIZE	Community size code (based on 2006 CMACA population)

CT	Census tract (a neighborhood-level code; unique within CMA)
DA	Census dissemination area; also short for PRCDDA (replaces enumeration area for 2001)
DB or BLK	Dissemination block; short for DBByuid (PRCDDA+BLK)
DIAG	Diagnostic fields (in HLTHOUT and GEOPROB files)
DISTANCE	Distance in km between two centroids (shortest or "great circle" distance)
DMTDIFF	Previous DMT if different than current DMT.
DMT	Delivery mode type (specified by Canada Post)
DPL	Designated place (a sub-municipal level code used for unincorporated places; unique within PR)
DPLTYPE	Designated place type.
EA	Enumeration area (also short for PRFEDEA)
EA96UID	1996 enumeration area (PRFEDEA for 1996).
ER	Economic region (formerly "subprovincial region") , unique within PR.
FED	Federal electoral district (unique within PR)
FSA	Forward sortation area (first three characters of postal code)
GEOPROB	SAS dataset name used for the output file containing all problem records (including errors, warnings and notes)
GMETHOD	Geocoding method used to build regular PCCF.
HLTHDAT	SAS dataset name used for the incoming records to be coded
HLTHOUT	SAS dataset name used for the output records after processing
HR	Health region (as defined by provincial health departments)
ID	Identifier (unique identifier or registration number, as defined by user)
INSTFLG	Institutional flag
IPPE	Neighbourhood income per person equivalent (based on 2006 DA summary data)
JCL	Job control language (for mainframe computers)
LAT	Latitude (North)
LDU	Local delivery unit (last three characters of the postal code)
LL	Latitude and longitude
LONG	Longitude (West)
NSREL	North-South relationship
OBS	Observations (records in SAS dataset)
PCCF	Postal Code Conversion File
PCODE	Postal code
POINSTAL	Postal installation geography flag.
PR	Province and region
QAIPPE	Quintile of neighbourhood income per person equivalent (within CMACA or residual)
QILEVEL	Quality indicator of PCCF links to community (QICOMM), street (QISTREET) and address (QIADDR)
PREC	Precision of geographic coding
PRCDDA	Province, census division and dissemination area
PRFEDEA	Province, federal electoral district, and enumeration area--latter not shown for 2001
RESFLG	Residence flag
RPF	Representative point flag (indicates if latitude longitude refer to DA, BLK or BLKF)
SACTYPE	Statistical area classification type
SAS	Statistical Analysis System
SERV	Canada Post service type
SGC	Standard Geographic Classification code (PR CD CSD)
SOURCE	Source of geographic codes assigned (C D F I 3 2 1 0 or .)
SLI	Single link indicator (used mainly to avoid multiple matches when weights not used)
SUB	Health district (as defined by provincial health departments)
TRACTED	If centroid is in a census tracted area, then TRACTED=1.
UARA	Urban area, rural area code
WCF	Weighted Conversion File (PCCF-style records with PRCDDA and population-based weights derived from the 2006, 2001 and 1996 censuses, and household-based weights derived from the 1991 census)

References

Amankwah NA. *Factors affecting distance to the nearest physician in Canada: Changes from 1993 - 1999*. MSc Thesis Epidemiology. Faculty of Graduate and Postdoctoral Studies, University of Ottawa, September 2002.

Borugian MJ, Spinelli JJ, Mezei G, Wilkins R, Abanto Z, McBride ML. Childhood leukemia and socioeconomic status in Canada. *Epidemiology* 2005 Jul;16(4):526-531.

Canada Post Corporation. *Canada's Postal Code Directory 2002* (and related files on magnetic tape). Canada Post Corporation, Montreal, 2002. / Société canadienne des postes. *Répertoire des codes postaux au Canada 2002* (et fichiers d'adresses sur bande magnétique). Société canadienne des postes, Montréal, 2002.

McNiven C, Puderer H. *Delineation of Canada's North: An examination of the North-South relationship in Canada*. Geography Working Paper Series No. 2000-3. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000. / McNiven C, Puderer H. *Délimitation au Nord canadien: un examen de la relation nord-sud au Canada*. Série de documents de travail de la géographie n. 2000-3. No 92F0138MPF au catalogue. Ottawa: Division de la géographie, Statistique Canada, 2000.

McNiven C, Puderer H, Janes D. *Census Metropolitan Area and Census Agglomeration Influence Zones (MIZ): A Description of the Methodology*. Geography Working Paper Series No. 2000-2. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000. / McNiven C, Puderer H, Janes D. *Zones d'influence des régions métropolitaines de recensement et des agglomérations de recensement (ZIM): description de la méthodologie*. Série de documents de travail de la géographie no. 2000-2. No 92F0138MPF au catalogue. Ottawa: Division de la géographie, Statistique Canada, 2000.

Mechada K, Puderer H. How postal codes map to geographic areas. Geography Working Paper Series, no. 1. Catalogue no. 92F0138MIE2007001. Ottawa: Statistics Canada, 2007. / Mechada K, Puderer H. Mise en correspondance des codes postaux et des régions géographiques. Série de documents de travail de la géographie. No. 92F0138MIF2007001. Ottawa : Statistique Canada, 2007.

Ng E, Wilkins R, Perras A. How far is it to the nearest hospital? Calculating distances using the Statistics Canada Postal Code Conversion File. *Health Reports* 1993;5(2):179-188. / Ng E, Wilkins R, Perras A. À quelle distance se trouve la plus proche hôpital? Le calcul des distances à l'aide du Fichier de conversion des codes postaux de Statistique Canada. *Rapports sur la Santé* 1993;5(2):179-188.

Ng E, Wilkins R, Pole J, Adams OB. How far to the nearest physician? *Health Reports* 1997; 8(4):19-31. / Ng E, Wilkins R, Pole J, Adams OB. À quelle distance se trouve le plus proche médecin? *Rapports sur la Santé* 1997; 8(4):21-34.

Plessis V, Beshiri R, Bollman RD, Clemenson H. Definitions of rural. *Rural and Small Town Canada Analysis Bulletin* 2001 Nov;3(3):1-17 (Statistics Canada catalogue 21-006-XIE). / Plessis V, Beshiri R, Bollman RD, Clemenson H. Définitions de « rural ». *Bulletin d'analyse - Régions rurales et petites villes du Canada* 2001 Nov;3(3):1-18 (Statistique Canada, no 21-006-XIF au catalogue).

SAS Institute. *SAS Language Reference, Version 6*. SAS Institute, Cary, North Carolina, 1990.

Statistics Canada. 2006 Census Dictionary. Catalogue 92-566-XWE. Ottawa, 2007. / Statistique Canada. Dictionnaire du Recensement de 2006. No 92-566-XWF au catalogue. Ottawa, 2007.

Statistics Canada. 2001 Census Dictionary. Catalogue No. 92-378-XPE. Ottawa: Statistics Canada, 2002. / Statistique Canada. *Dictionnaire du recensement de 2001*. No 92-378-XPF au catalogue. Ottawa: Statistique Canada, 2002.

Statistics Canada. 1996 Census Dictionary. Catalogue 92-351-XPE. Minister of Industry, Ottawa, 1997. / Statistique Canada. *Dictionnaire du recensement 1997*. Catalogue 92-351-XPF. Ministre de l'Industrie, Ottawa, 1997.

Statistics Canada, Agriculture Division. *Census Agricultural Regions*. Maps and definitions by province. <http://www.statcan.ca/english/freepub/95F0355XIE/reference.htm>. / Statistique Canada, Division de l'agriculture. *Régions agricoles du recensement*. Cartes et définitions. http://www.statcan.ca/francais/freepub/95F0344XIF/reference_f.htm.

Statistics Canada. Census Forward Sortation Area Boundary File, Reference Guide. Catalogue 92-170-GIE. Ottawa: Statistics Canada, 2007. / Statistique Canada, Fichier des limites des régions de tri d'acheminement censitaires. Guide de référence. Ottawa, Statistique Canada, 2007.

Statistics Canada. *Geographic Attribute File, Reference Guide. Census year 2006*. Catalogue no. 92-151. Ottawa, Statistics Canada, 2007. / Statistique Canada. *Fichier des attributs géographiques, Guide de référence. Année de recensement 2006*. No 92-151 au catalogue. Ottawa, Statistique Canada, 2007.

Statistics Canada. *GeoSuite Reference Guide. Census Year 2006*. Catalogue no. 92-150-GIE. Ottawa : Minister of Industry, March 2007. / Statistique Canada *GéoSuite, Guide de référence. Année de recensement 2006*. No 92-150-GIF. Ottawa : Ministère de l'Industrie, 2007 mars.

Statistics Canada. *GeoSuite, 2001 Census*. Catalogue 92F0150XCB. Geography Division, Statistics Canada, March 2002. (\$60) / Statistique Canada. *GéoSuite, recensement de 2001*. No 92F0150XCB au catalogue. Division de la géographie, Statistique Canada, mars 2002. (60\$)

Statistics Canada. *Health Regions 2007: Boundaries and Correspondence with Census Geography*. Catalogue no. 82-402-XWE. Ottawa: Health Statistics Division, 2008. / Statistique Canada. *Régions socio-sanitaires 2007 : limites et correspondance avec la géographie du recensement*. No 82-402-XWF au catalogue. Ottawa, Division de la statistique sur la santé, Statistique Canada, 2008.

Statistics Canada. *Health Indicators, June 2005. List of health regions (December 2007) noting changes to codes, names and boundaries*. Catalogue 82-221-XWE. Ottawa: Health Statistics Division, 2005 June. / Statistique Canada. *Indicateurs de la santé, 2008. Liste des régions socio-sanitaires (décembre 2007) : indiquant les changements de codes, de noms et de limites*. No 82-221-XWF au catalogue. Ottawa, Division de la statistique sur la santé, 2008.

Statistics Canada. *Postal Code Conversion File (PCCF), Reference Guide. March 2008*. Catalogue No. 92-153-GWE. Geography Division, Statistics Canada, Ottawa, July 2008. / Statistique Canada. *Fichier de conversion des codes postaux (FCCP), guide de référence. Mars 2008*. No. 92-153-GWF au catalogue. Division de la Géographie, Statistique Canada, Ottawa, juillet 2008.

Statistics Canada. *Postal Code Population Weight File. May 2001 Postal Codes. Reference Guide*. Catalogue No. 93F0040XDB. Geography Division, Statistics Canada, January 2003. / Statistique Canada. *Fichier de la pondération par codes postaux*. Codes postaux de mai 2001. Guide de référence. No 93F0040XDB au catalogue. Division de la Géographie, Statistique Canada, janvier 2003.

Statistics Canada. *Postal Code Population Weight File. May 1996 Postal Codes. Reference Guide*. Catalogue No. 93F0040XDB. Geography Division, Statistics Canada, August 1998. / Statistique Canada. *Fichier de la pondération par codes postaux*. Codes postaux de mai 1996. Guide de référence. No 93F0040XDB au catalogue. Division de la Géographie, Statistique Canada, août 1998.

Statistics Canada. *Census Forward Sortation Area Boundary File, 2001 Census. Reference Guide*. Catalogue No. 92 F010GIE. Ottawa: Geography Division, Statistics Canada, November 2002. / Statistique Canada. *Fichier de limites des régions de tri d'acheminement censitaires. Recensement de 2001. Guide de référence*. No 92F0170GIF au catalogue. Ottawa: Division de géographie, Statistique Canada, novembre 2002.

Statistics Canada. *Standard Geographical Classification SGC 1996, Volume I*. Catalogue 12-571. Minister of Industry, Ottawa, 1997. / Statistique Canada. *Classification géographique type CGT 1996, Volume I*. Catalogue 12-571. Ministre de l'Industrie, Ottawa, 1997.

Statistics Canada. *User Guide. 1991 Place Name Master File*. Geography Division, Statistics Canada, Ottawa, April 1993. / Statistique Canada. *Fichier principal des noms de localité 1991. Guide de l'utilisateur*. Division de la géographie, Statistique Canada, Ottawa, avril 1993.

Statistics Canada. *GeoRef 1996 (CD-ROM)*. Catalogue 92F008XCB. Geography Division, Statistics Canada, Ottawa, 1997. / Statistique Canada. *GéoRef 1996*. No 92F008XCB au catalogue. Division de la géographie, Statistique Canada, Ottawa, 1997.

Statistics Canada. *GeoSuite 2001 (CD-ROM)*. Catalogue 92F0150XCB. Statistics Canada, Ottawa, 2002. / Statistique Canada. *GéoSuite 2001*. No 92F0150XCB au catalogue. Statistique Canada, Ottawa, 2002.

Statistics Canada. *GeoSuite 2006 (electronic)*. Catalogue 92-150-XCB. Statistics Canada, Ottawa, 2007. / Statistique Canada. *GéoSuite 2006*. No 92-150-XCB (électronique) au catalogue. Statistique Canada, Ottawa, 2007.

Wilkins R. *Verification of geographic coding produced by Geocodes/PCCF version 3*. Technical note. Health Statistics Division, Statistics Canada, November 1998.

Wilkins R. Use of postal codes and addresses in the analysis of health data. *Health Reports* 1993;5(2):157-177. / Wilkins R. Utilisation des codes postaux et adresses dans l'analyse des données sur la santé. *Rapports sur la Santé* 1993;5(2):157-177.

Wilkins R. *Geocodes/PCCF Version 2 User's Guide. Automated Geographic Coding Based on the Statistics Canada Postal Code Conversion File*. Ottawa: Health Statistics Division, Statistics Canada, Ottawa, July 1996. / Wilkins R. *Géocodes/FCCP Version 2 Guide de l'Utilisateur. Repérage automatique des codes géographiques basé sur le fichier de conversion des codes postaux de Statistique Canada*. Ottawa: Division des statistiques sur la santé, Statistique Canada, 1996.

Wilkins R. *PCCF+ Version 3J User's Guide (Geocodes/PCCF). Automated Geographic Coding Based on the Statistics Canada Postal Code Conversion Files, Including Postal Codes to May 2002*. Catalogue 82F0086-XDB. Health Analysis and Measurement Group, Statistics Canada, Ottawa, July 2002. / Russell Wilkins. *FCCP+ Version 3J Guide de l'utilisateur (Géocodes/FCCP). Logiciel de codage géographique basé sur les Fichiers de conversion des codes postaux de Statistique Canada mises à jour en mai 2002*. N° de catalogue 82F0086-XDB. Groupe d'analyse et de mesure de la santé, Statistique Canada, Ottawa, juillet 2002.

Wilkins R. *PCCF+ Version 4J User's Guide. Automated geographic coding based on the Statistics Canada Postal Code Conversion files, including postal codes to September 2006*. Catalogue no. 82F0086-XDB. Ottawa: Health Analysis and Measurement Group, Statistics Canada, 2007 January. 64 pp. / Wilkins R. *FCCP+ Version 4J Guide de l'utilisateur. Logiciel de codage géographique basé sur les fichiers de conversion des codes postaux de Statistique Canada, mis à jour en septembre 2006*. N° de catalogue 82F0086-XDB. Ottawa : Groupe d'analyse et de mesure de la santé, Statistique Canada, 2007 janvier. 73 p.

Warning and disclaimer

PCCF+ is intended only for authorized users of the PCCF. Installation, use and/or modification of the control programs and related files are solely the responsibility of the user. The accuracy and consistency of the geographic coding generated by the package should be tested thoroughly and evaluated by the user--prior to employing the package for production runs.

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Table 2

Distribution of postal codes and census population by delivery mode type (DMT),
September 2002 PCCF and May 2001 Census.

Delivery mode type (DMT)	PCCF					Census				
	Pcodes		Records		Rec/Pc	Pcodes		Population		Pop/Pc
	n	%	n	%	av	n	%	n	%	av
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	823,556	100.0	1,987,055	100.0	2.4	671,797	100.0	29,779,095	100.0	44
Urban post office (PO)										
<i>Urban services</i>										
A (ordinary urban)	717,537	87.1	1,264,191	63.6	1.8	638,936	95.1	20,115,945	67.6	31
B (apartments)	17,291	2.1	27,361	1.4	4.6	16,329	2.4	2,561,093	8.6	157
E (business, etc)	9,193	1.1	25,003	1.3	2.7	2,364	0.4	28,803	0.1	12
G (gov, inst, etc)	8,284	1.0	24,299	1.2	2.9	2,303	0.3	83,971	0.3	36
M (single PO box)	5,052	0.6	19,690	1.0	3.9	900	0.1	16,438	0.1	18
<i>Rural services from urban PO</i>										
H (rural route)	996	0.1	58,459	2.9	58.7	1,014	0.2	859,807	2.9	848
J (general delivery)	645	0.1	2,425	0.1	3.8	282	0.0	3,311	0.0	12
K (group of PO boxes)	7,239	0.9	31,681	1.6	4.4	4,402	0.7	231,686	0.8	53
T (suburban service)	77	0.0	1,357	0.1	17.6	60	0.0	15,044	0.1	251
X (mobile route)	1	0.0	62	0.0	62.0	1	0.0	179	0.0	179
Z (retired)	52,064	6.3	203,759	10.3	3.9	15	0.0	282	0.0	19
Rural post office										
W (rural PO, all service types)	5,177	0.6	328,768	16.5	63.5	5,191	0.8	5,862,536	19.7	1,129

Note: PCCF Sept 2002. May 2001 census postal codes (with DMT from May 2001).

Table 3

Comparison of population-based coding errors using PCCF+ Version 3 (GEORES3A) versus coding errors using the PCCF single link indicator (SLI), versus coding errors using FSA-based imputation (FSA)

Level	FSA	SLI	R3A	Diff	Ratio
	%	%	%	SLI-R3A	SLI/R3A
PR Province	0.0	0.1	0.1	0.0	1.00
CD Census Division	0.5	0.6	0.3	0.3	2.00
CSD Census Sub-division	4.7	9.4	3.2	6.2	2.94
CMA Census Metropolitan Area /Census Agglom.	0.3	0.4	0.2	0.2	2.00
CT Census Tract	11.6	2.7	1.9	0.8	1.42
EA Enumeration Area	41.8	33.6	15.8	17.8	2.13
DPL Designated Place – applicable areas only	30.3	50.9	20.0	30.9	2.55

Note: Population-based coding errors were defined as the sum over all areas at this level of the absolute value of the population coded less the population known from the census sample, expressed as a percentage of the total population in all areas at this level. Based on simple 1% sample of individuals in the 1996 total population. Error percentages calculated after improbable census postal codes excluded from sample.

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APPENDIX A: RECORD LAYOUT OF THE HLTHOUT FILE (.GEO)

```

DATA HLTHOUT; INFILE HLTHOUT;
INPUT      /* 2006 VINTAGE CENSUS GEOGRAPHY, UNLESS OTHERWISE NOTED */
@ 1  ID      $CHAR12. /* RECORD IDENTIFICATION (AS INPUT) */
@13  PCODE   $CHAR6.  /* POSTAL CODE (AS INPUT) */
@19  RESFLG  $CHAR1.  /* RESIDENCE FLAG ON PCODES IF DMT=E,G,M */
@20  PR      $CHAR2.  /* PROVINCE CODE (99=UNKNOWN) */
@22  CD      $CHAR2.  /* CENSUS DIVISION CODE (00=UNKNOWN) */
@24  CSD     $CHAR3.  /* CENSUS SUBDIVISION CODE (999=UNKNOWN) */
@28  CMA     $CHAR3.  /* CMA OR CA CODE (999=UNKN;000=NOT APPL) */
@31  CT      $CHAR7.  /* CENSUS TRACT (9999.99=UNKN; 0000.00=NA) */
@39  DA      $CHAR4.  /* DISSEMINATION AREA (9999=MISSING) */
@43  BLK     $CHAR2.  /* DISSEMINATION BLOCK (.9=MISSING) */
@45  INSTFLG $CHAR1.  /* INSTITUTIONAL FLAG */
@46  LAT     Z8.      /* LATITUDE DEGREES(2)+DECIMALS(6) */
@54  LONG    Z9.      /* LONGITUDE DEGREES(3)+DECIMALS(6) */
@64  DPL     $CHAR3.  /* DESIGNATED PLACE (000=NOT APPL;999=UNKN) */
@67  DMTDIFF $CHAR1.  /* PREVIOUS OR ALTERNATE DMT IF DIFFERENT */
@68  DMT     $CHAR1.  /* DELIVERY MODE TYPE: */
@69  LINK    $CHAR1.  /* LINK TYPE (INCREASING CONFIDENCE) */
@70  SOURCE  $CHAR1.  /* SOURCE OF GEOGRAPHIC CODES */
@71  NCSD    1.      /* NUMBER CSD POSSIBLE AT THIS PCODE 1-9+ */
@72  NCD     1.      /* NUMBER CD POSSIBLE AT THIS PCODE 1-9+ */
@73  RPF     $CHAR1.  /* REPRESENTATIVE POINT (CENTROID) FLAG */
@74  SERV    $CHAR1.  /* SERVICE TYPE */
@75  PREC    $CHAR1.  /* PRECISION OF LAT LONG (0=LEAST;9=MOST) */
@76  NADR    1.      /* NUMBER OF ADDRESS RANGES FOR THIS PCODE */
@78  CODER   $CHAR3.  /* CODER: 'R4A'=GEORES4A SEPT 2002 PCCF */
@82  CPCCODE $CHAR4.  /* CANADA POST COMMUNITY CODE (SEQUENTIAL) */
@87  HR      $CHAR2.  /* HEALTH REGION CODE (UNIQUE WITHIN PR) */
@89  SUB     $CHAR3.  /* HEALTH DISTRICT CODE (UNIQUE IN PR/PR+HR (QC ONLY) */
@93  CSIZE   $CHAR1.  /* COMMUNITY SIZE CODE (BASED ON CMACA 2001 POP) */
@95  QAIPPE  $CHAR1.  /* NEIGHBOURHOOD INCOME QUINTILE (WITHIN CMACA) */
@97  SACTYPE $CHAR1.  /* STATISTICAL AREA CLASSIF TYPE (INCL TRACTED, MIZ) */
@98  CSIZEMIZ $CHAR1. /* URBAN CMACA SIZE + RURAL MIZ */
@99  NSREL   $CHAR1.  /* NORTH-SOUTH RELATIONSHIP */
@100 AIRLIFT $CHAR1.  /* CANADA POST AIR STAGE COMMUNITY (6+ MONTHS/YEAR) */
@101 BLKURB $CHAR1.  /* URBAN BLOCK INDICATOR (1=URBAN; 0=RURAL; 9=MISSING) */
@103 FED     $CHAR3.  /* FEDERAL ELECTORAL DIST (UNIQUE IN PR) */
@107 ER     $CHAR2.  /* ECONOMIC REGION (UNIQUE WITHIN PR) */
@110 AR     $CHAR2.  /* CENSUS AGRICULTURAL REGION (CROP DIST)-UNIQUE IN PR */
@113 CCS    $CHAR3.  /* CENSUS CONSOLIDATED SUBDIVISION (UNIQUE WITHIN PR) */
@117 POINSTAL $CHAR1. /* POSTAL INSTALLATION GEOGRAPHY FLAG (0=NO, 1=YES) */
@118 QILEVEL $CHAR3.  /* QUALITY OF LINKS TO COMMUNITY, STREET AND ADDRESS */
@121 GMETHOD $CHAR1. /* GEOCODING METHOD USED TO BUILD REGULAR PCCF RECORD */
@123 EA81UID $CHAR8.  /* 1981 ENUMERATION AREA (PRFEDEA) */
@132 EA86UID $CHAR8.  /* 1986 ENUMERATION AREA (PRFEDEA) */
@141 EA91UID $CHAR8.  /* 1991 ENUMERATION AREA (PRFEDEA) */
@150 EA96UID $CHAR8.  /* 1996 ENUMERATION AREA (PRFEDEA) */
@159 DA01UID $CHAR8.  /* 2001 DISSEMINATION AREA (PRCDDA) */
@168 DA06UID $CHAR8.  /* 2006 DISSEMINATION AREA (PRCDDA) */
/* THE FOLLOWING FIELDS APPLY TO ALTERNATE PROGRAMS R4XOLD I4XOLD ONLY:
@177 BTHDATC $CHAR6.  /* YYYYMM OF PCCF PCODE BIRTH DATE
@184 RETDATEC $CHAR6. /* YYYYMM OF PCCF PCODE RETIREMENT DATE
@191 PCVDATEC $CHAR6.; /* YYYYMM OF USERS' PCODE VINTAGE

```

The dataset HLTHOUT is sorted first by ID, then by PCODE. If the incoming file HLTHDAT contains any records with identical ID+PCODE, only a single example of each combination will be processed. Then when the HLTHOUT records are merged back to the main file, every record with the same ID+PCODE will be assigned the same geographic codes, even if more than one set of geographic codes were possible for that postal code.

APPENDIX B: RECORD LAYOUT OF THE GEOPROB FILE (.PRB)

```

DATA GEOPROB;SET GEOPROB;BY LINK;FILE GEOPROB;
PUT
@ 1 ID          $CHAR12. /* RECORD IDENTIFICATION (AS INPUT)          */
@ 13 PCODE     $CHAR6.  /* POSTAL CODE (AS INPUT)          */
@ 19 RESFLG    $CHAR1.  /* RESIDENCE FLAG ON PCODES IF DMT=E,G,M */
@ 20 PR        $CHAR2.  /* PROVINCE CODE (99=UNKNOWN)       */
@ 22 CD        $CHAR2.  /* CENSUS DIVISION CODE (00=UNKNOWN) */
@ 24 CSD       $CHAR3.  /* CENSUS SUBDIVISION CODE (999=UNKNOWN) */
@ 28 CMA       $CHAR3.  /* CMA OR CA CODE (999=UNKN;000=NOT APPL) */
@ 31 CT        $CHAR7.  /* CENSUS TRACT (9999.99=UNKN;0000.00=NA) */
@ 39 DA        $CHAR4.  /* DISSEMINATION AREA (9999=UNKNOWN) */
@ 43 BLK       $CHAR2.  /* DISSEMINATION BLOCK (00=UNKNOWN)  */
@ 45 INSTFLG   $CHAR1.  /* INSTITUTIONAL FLAG              */
/* NOTE: GEOPROB HAS DIFF LAYOUT FROM HLTHOUT BEGINNING WITH LAT */
@ 46 LAT       $CHAR2.  /* LATITUDE DEGREES(2)             */
@ 48 LONG      $CHAR2.  /* LONGITUDE DEGREES(3)/10=(2)     */
@ 51 HR        $CHAR2.  /* HEALTH REGION CODE (UNIQUE WITHIN PR) */
@ 53 SUB       $CHAR3.  /* HLTH DIST CODE (UNIQUE IN PR /PR+HR(QC)) */
@ 57 DPL       $CHAR3.  /* DESIGNATED PLACE (999=UNKN;000=NOT APPL) */
/* DIAGNOSTIC FLAGS: */
@ 61 DMTDIFF   $CHAR1.  /* PREVIOUS DMT IF DIFFERENT       */
@ 62 DMT       $CHAR1.  /* DELIVERY MODE TYPE              */
@ 63 LINK      $CHAR1.  /* LINK TYPE                        */
@ 64 SOURCE    $CHAR1.  /* SOURCE OF GEOGRAPHIC CODES      */
@ 65 NCSD      1.      /* NUM CSD POSSIBLE AT THIS PCODE/FSA/FSA12 */
@ 66 NCD       1.      /* NUM CD POSSIBLE AT THIS PCODE/FSA/FSA12 */
@ 67 RPF       $CHAR1.  /* REPRESENTATIVE POINT (CENTROID) FLAG */
@ 68 SERV      $CHAR1.  /* SERVICE TYPE                     */
@ 69 PREC      $CHAR1.  /* PRECISION (0=LEAST;9=MOST)      */
@ 70 NADR      1.      /* NUMBER OF ADDRESS RANGES FOR THIS PCODE */
/* NO OTHER FIELDS OF HEALTHOUT PRESENT IN THE GEOPROB FILE */
/* FOLLOWING 3 FIELDS ONLY PRESENT IN GEOPROB FILE: */
@ 72 ADR       $CHAR50. /* BLDG NAME, STREET ADR, CITY     */
@123 CSDNAME   $CHAR8.  /* FIRST 8 CHARACTERS OF CSD NAME  */
@131 CSdtype   $CHAR2.; /* CSdtype WITH '*' REPLACING TRAILING ' ' */

```

The dataset GEOPROB is sorted first by LINK, then by RESFLG, DMT (or DMTDIFF if DMT='Z'), PCODE, PR, CD, CSD, DA, BLK and ID. That ensures that records with similar types of problems will be grouped together, which will facilitate corrections.

APPENDIX C: EXPLANATION OF FIELDS AND CODES APPEARING IN THE OUTPUT FILES AND PRINTOUTS

Except as noted, the following fields appear on both of the output files (HLTHOUT and GEOPROB) produced by PCCF+. When the same field appears on both files, it does *not* necessarily appear in the same position.

Identification (ID)

```
@ 1 ID      $CHAR12. /* ID OR REGIST NUMBER (AS INPUT) */
```

Record identification. This field will appear exactly as read in from the HLTHDAT file, including leading or trailing blanks, if any, plus all numbers, letters and special characters. The ID can be any combination of alphabetic, numeric or other characters.

Postal Code (PCODE)

```
@ 13 PCODE  $CHAR6. /* POSTAL CODE (ANANAN) */
```

Postal code. The first three characters of the postal code represent the Forward Sortation Area (FSA). The last three characters represent the Local Delivery Unit (LDU). A zero (0) in the second position of the postal code indicates service from a *rural* post office. Rural route services and suburban route services are also provided from *urban* post offices (where the second position of the postal code is *not* 0), in which cases the PCCF will show a Delivery Mode Type (DMT) of H (rural route service) or T (suburban route service).

Lower case alphabetic characters in the postal code field will be converted to upper case prior to matching.

If the province of residence is known (but nothing else), then the first letter of the postal code on your incoming file should correspond to the first letter for that province as assigned by Canada Post (for example, use B for a Nova Scotia resident of unknown address).

Residence Flag on Postal Code if DMT is E, G or M (RESFLG)

```
@ 19 RESFLG  $1. /* RESIDENCE FLAG ON PCODES IF DMT=E,G,M: */
                /* '@' POSSIBLE RESIDENCE */
                /* '-' IMPROBABLE RESIDENCE */
                /* '?' DMT=E,G,M BUT RES UNDETERMINED */
                /* ' ' DMT NOT IN (E,G,M) */
```

If the delivery mode type (DMT) is E, G or M, then RESFLG indicates postal codes for possible or improbable residence addresses, or postal codes for which the residential or non-residential nature is undetermined. If the DMT is not in E, G or M, then RESFLG will be blank. See GEOPROB output (@72 ADR \$CHAR50.) for Canada Post building name and address information, if available.

Province, Census Division and Census Subdivision (PRCDCSD)

This field is composed of three subfields:

```
@ 20 PR      $CHAR2. /* PROVINCE CODE */
@ 22 CD      $CHAR2. /* CENSUS DIVISION CODE */
@ 24 CSD     $CHAR3. /* CENSUS SUBDIVISION CODE */
```

The form of this field tells you how much is known, and how much is unknown about each of the three subfields. The output will have one of the following forms (where each "n" represents a number from 0 through 9):

nnnnnnn	PR CD and CSD known
nnnn999	PR and CD known, CSD unknown
nn00999	PR known, CD and CSD unknown
9900999	PR CD and CSD unknown

See the 2006 *Standard Geographical Classification* (SGC) for lists of valid codes for PR PRCD and PRDCSD. A missing CD is indicated by 00 (since 99 is a legitimate CD code in northern Quebec); other missing fields for SGC are filled with '9's. Files CDNAMES and CSDNAMES show the names of each CD and CSD.

Census Metropolitan Area/Census Agglomeration and Census Tract (CMACT)

This field is composed of two subfields:

```
@ 28 CMA      $CHAR3.      /* CMA OR CA CODE (000=NONE; 999=UNKNOWN) */
@ 32 CT       $CHAR6.2    /* CENSUS TRACT (000=NOT APPL;999.99=MISSING) */
```

The form of this field tells you how much is known, and how much is unknown about each of the subfields. The output will have one of the following forms (where each "n" represents a number from 0 through 9):

000 000.00	Not in any CMA or CA
nnn nnn.nn	CMA/CA with urban Census Tract
nnn 999.99	CMA/CA with urban Census Tract, but CT unknown
999 999.99	CMA/CA unknown, and CT unknown (if any)

Note that CMA codes 996-999 as shown in 2006 *GeoSuite* are not true CMA codes as defined by the 2006 Standard Geographic Classification, but rather Statistical Area Classification (SAC) codes, including Metropolitan Influence Zones (MIZ). Only true CMA codes are shown here, plus 999 for unknown CMA, and 000 for not in any CMA (or CA).

Dissemination Area (DA)

```
@ 39 DA      $CHAR4.      /* DISSEMINATION AREA (UNIQUE WITHIN PRCD); 9999=MISSING */
```

The dissemination area is the smallest geographic unit for which population characteristics are diffused from the 2006 census. In censuses prior to 2001, that role was filled by the enumeration area, but for the 2001 and 2006 censuses, the enumeration area was used for collection purposes only.

Dissemination Block (BLK)

```
@ 43 BLK     $CHAR2.      /* DISSEMINATION BLOCK (UNIQUE WITHIN PRCDDA); 00=MISSING */
```

A dissemination 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. There may be as many as 99 blocks within a DA, so the missing value for block is a period.

Institutional Flag (INSTFLG)

```
@ 45 INSTFLG $1. /* INSTITUTIONAL FLAG */
/* E=SCHOOL OR UNIVERSITY RESIDENCES */
/* H=HOSPITALS */
/* I=HOSPITALS (ONLY FROM BUILDING NAME) */
/* N=NURSING HOMES */
/* S=SENIORS RESIDENCES */
/* P=PRISONS, JAILS */
/* U=OTHER */
/* BLANK=NOT APPLICABLE (AREA NOT PREDOM INST)*/
```

This field is used to help identify records likely to be for institutional residents. It is usually blank. The categories should not be expected to correspond to the classification of facilities used by the Health Statistics Division, provincial or territorial authorities.

Beginning with the following fields, the record layout of the GEOPROB file differs from that of the HLTHOUT file. Where fields are common to both files, only the layout for the HLTHOUT file is shown as program lines, although differences in the GEOPROB file may be mentioned in the field description and shown within square brackets.

Latitude and longitude (LAT LONG)

```
@ 46 LAT      Z8. /* LATITUDE DEGREES(2)+DECIMALS(6) */ [@ 46 LAT Z2. on GEOPROB file]
@ 53 LONG     Z9. /* LONGITUDE DEGREES(3)+DECIMALS(6) */ [@ 48 LONG Z2. on GEOPROB file]
```

Latitude and longitude. If SOURCE=F, D, C or I, then the latitude and longitude shown refer to dissemination area, block or blockface coordinates (the RPF field tells you which, and the PREC field indicates the spatial precision of the coding). If SOURCE=I, 3 or 2, then the latitude and longitude shown will be the average latitude and longitude of all postal codes in that FSA or aggregate of FSAs. The latter are clearly only approximate locations, so the corresponding distance calculations will also be only approximate. If the first two characters of the postal code were invalid, then latitude and longitude will be unknown, and each field will contain a single period ("."), which indicates a missing numerical value. Exceptionally for these two fields, 99999999 and 999999999 are not used to indicate missing values, since those would have been taken as legitimate values for the distance calculations, thus resulting in extreme distances, rather than missing distances. Note that in the GEOPROB file, in order to conserve space only two places after the implied decimal are shown.

Designated Place (DPL)

```
@ 64 DPL      $CHAR3. /* DESIGNATED PLACE (999=UNKN;000=NONE) */
[@ 57 DPL      $CHAR3. on GEOPROB file]
```

The Designated Place (DPL) field is for a generally submunicipal level geography which was new with the 1996 census, and only applicable in some provinces. For 2006, a DPL is defined as a group of census blocks which refer to an unincorporated place usually within a single census subdivision (CSD), but some cross CSD boundaries, of which a few also cross census division (CD) boundaries. Note that because DPLs mostly occur in areas served by rural postal codes (where a single postal code serves a group of DAs and many census blocks), such areas are difficult or impossible to define with reasonable accuracy in terms of postal codes alone. File DPLNAMES shows the names of the DPLs assigned by provincial authorities.

Diagnostic flags (DMTDIFF, DMT, LINK, SOURCE, NSCD, NCD, RPF, SERVE, PREC, NADR)

Note: There are now 10 characters (with no spaces between them) for diagnostic flags on both the HLTHOUT and GEOPROB files. These diagnostic flags are for DMTDIFF, DMT, LINK, SOURCE, NSCD, NCD, RPF, SERV, PREC and NADR. In addition, the GEOPROB file and printout will show truncated address information (if applicable), or Designated Place Name (if applicable), or Canada Post Community Name or Census Division Name, and Census Subdivision Name and Census Subdivision Type (if known or estimated from partial matching).

Different Delivery Mode Type (DMTDIFF)

```
@ 67 DMTDIFF  $1. /* PREVIOUS OR ALTERNATE DMT IF DIFFERENT */
[@ 61 DMTDIFF  $1. on GEOPROB file]
```

This field is for the previous Delivery mode type (DMT) if different from the current DMT. This usually occurs when the current DMT=Z (retired).

Delivery Mode Type (DMT)

```
@ 68 DMT      $1. /* DELIVERY MODE TYPE */ [@ 62 DMT $1. on GEOPROB file]
```

The Delivery Mode Type is a single character which will be W if delivery is from a rural post office, or will be another alphabetic character if delivery is from an urban post office, or 9 if DMT is missing or not applicable. The Delivery Mode Type is determined by Canada Post, except that, beginning with Version 3 of PCCF+, W is always used in place of blank for any delivery mode from a rural post office.

- W Rural postal codes (regardless of type of service) now always have a DMT of W. Where more than 1 CSD is served by the rural post office, this will result in a Note to that effect on the GEOPROB file. No action is recommended in such cases, since manual coding would defeat the population-weighted allocation.
- A Ordinary household (including community mail boxes) served by letter carrier. The most common DMT; usually no problem.
- B Apartment building (large) served by letter carrier. No problem with this DMT.

- E Business buildings served by letter carrier. This DMT results in a Warning message, with the suggestion to check postal code/address, to see if they refer to a legitimate residence or office location. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building name and brief address are shown on the GEOPROB file. The legitimacy of a postal code with this DMT may also depend on the nature of the records being coded: appropriate codes for offices are not necessarily appropriate for residences.
- G Large Volume Receiver served by letter carrier (includes many institutions). This DMT results in a Warning message, with the suggestion to check postal code/address, to see if they refer to a legitimate residence or office location. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building, company or institution name and brief address will be shown on the GEOPROB file. The legitimacy of postal codes with this DMT may also depend on the nature of the records being coded: appropriate codes for offices are not necessarily appropriate for residences. For example, a postal code for a nursing home may be reasonable for coding the place of usual residence on a death record, but it would be highly suspicious on a birth record.

Special note concerning Delivery Mode Types H, J, K, M, R and T: Except on rare occasions, it is no longer necessary to manually recode records with a DMT of H (for rural route delivery from an urban post office), J (General Delivery--pick up from an urban post office counter), K (pick-up from group of urban post office boxes), or T (suburban service delivery from an urban post office). Most postal codes with those DMTs can now be assigned a full set of geographic codes by reference to the WCF (SOURCE=C). That also applies to many postal codes with DMT of M (pick up from a single large urban post office box) and R (miscellaneous services; no longer used by Canada Post).

- H Rural route delivery from urban post office. For most rural routes, the WCF shows the 2006 Census 2A population weights associated with each PCODE/PRCDDA combination. As rural routes serve large areas, more than one CSD or CD may be linked to a postal code with this DMT, in which case the record will be output to the GEOPROB file with a Note to that effect. If the SOURCE is not equal to 'C', then only PR and CMA will be imputed from FSA, since the service area of these postal codes extends out into adjacent rural FSAs.
- J General delivery (poste restante). Residence location may be available from census data (WCF, SOURCE=C). Otherwise, this DMT will result in an Error, and the only geographic codes assigned would be based on population-weighted imputation within the FSA (SOURCE=I) or on "most likely" values for the FSA (SOURCE=3).
- K Group of post office boxes. Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, and the only geographic codes assigned would be based on population-weighted imputation within the FSA (SOURCE=I) or on "most likely" values for the FSA (SOURCE=3).
- M Single post office box. If present on the WCF (SOURCE=C), will be fully coded. In most cases, the RESFLG field will indicate whether the postal code is probable or improbable as a place of residence. The building, company or institution name and brief address will be shown on the GEOPROB file. If not present on the WCF, postal codes with this DMT will result in an Error, since the PCCF only links postal codes with this DMT to post office location. In that case the only geographic codes which could be assigned would be imputed from population-weighted imputation within the FSA (SOURCE=I), or on based on "most likely" values for the FSA (SOURCE=3).
- R Miscellaneous delivery services. Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA. *DMT R is no longer used by Canada Post, but it may appear in the field for previous DMT.*
- T Suburban service delivery (rare). Residence location may be available from census data (WCF). Otherwise, this DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA.

DMT=X is only linked to post office location, and thus results in an Error message as well as output to the GEOPROB file. However, since in such cases the first three characters of the postal code are known to be valid, then a "most likely" PR and CMA may often be imputed and an average LAT and LONG for the FSA would be assigned by the programs.

- X Mobile route (urban industrial areas; rare). This DMT will result in an Error, as the regular PCCF only links these to post office location, and the only geographic codes which could be assigned would be based on "most likely" values for the FSA.
- W Rural postal codes. Usually geography for records with rural postal codes will be derived from the Weighted Conversion File (SOURCE=C).

- Z Retired postal codes. Usually the DMTDIFF field will show the previous DMT for retired postal codes. If so, the LINK and other diagnostic codes make use of the DMTDIFF. However, if DMTDIFF is blank, then there is a slight chance that a currently retired postal code may have formerly had a DMT of E, G, M or X, so this condition will result in output of the record to the problem file with a Warning message to that effect.
- 9 Not applicable. No exact match to the PCCF or WCF, hence DMT is unknown. These will result in an Error message as well as output to the GEOPROB file. A partial set of geographic codes may still be assigned based on the first 1, 2 or 3 characters of the postal code (SOURCE=1, 2, 3 or I).

Link type code (LINK) - (formerly PROB prior to Version 4)

```
@ 69 LINK $1. /* LINK TYPE (INCREASING CONFIDENCE) */ [@ 63 LINK $1. on GEOPROB file]
```

The meanings of the numbers in this field are as follows:

- 0 Error: No match to PCCF (UNIQ, DUPS, or WCF).
- 1 Error: Linked to PO geography.
- 2 Warning: Non-residential. DMT=E, G or M and EGMRES=- (probable non-residential).
- 3 Warning: Business building (may possibly not be a legitimate residence). DMT=E and EGMRES=blank.
- 4 Warning: Commercial or institutional (check if legitimate residence). DMT=G or M and EGMRES=blank.
- 5 Warning: Retired postal code (slight chance of DMT problem prior to retirement, if DMT=Z, and DMTDIFF=blank).
- 6 Note: Multiple match to CSD. CSD assigned by random allocation among possible CSDs shown in PCCF, with equal weight to each DA or BLK served. No further action required.
- 7 Note: Multiple match to CSD. CSD assigned by random allocation among possible CSDs shown in WCF, based on distribution of population by postal code and DA at the time of the 2001 census (no further action required).
- 9 Not applicable (no error, warning or note). *Such records do not appear on the GEOPROB file or printout.*

The link type code identifies the type of problems encountered in coding. The link type codes (LINK) and corresponding messages (MESSAGE) are arranged in hierarchical order, starting with 0 for the most serious problems, and going to 9 for no problem at all (not even a Warning or Note). If more than one type of problem was present, only the worst type is shown.

Source of Geographic Codes (SOURCE)

```
@ 70 SOURCE $1. /* SOURCE OF GEOGRAPHIC CODES AND LAT/LONG */ [@ 64 SOURCE $1. on GEOPROB file]
```

The possible values of this field are as follows:

- F A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCF unique record.
- D A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCF duplicate record.
- C A full set of geographic codes and latitude/longitude were derived from an exact match to a WCF record (for DMT of H, J, K, some M, R, T, W, or Z).
- I Full geography was imputed from the first 3 characters of a postal code (when DMT=9 or most M), using census population weights.
- 3 A partial set of geographic codes was assigned based on only the first 3 characters of this postal code (if 90% certain). Average latitude and longitude of the FSA were assigned.
- 2 A partial set of geographic codes were assigned based on only the first 2 characters of this postal code. Average latitude and longitude of the FSA12 were assigned (if 90% certain). CT and DA+BLK always set to missing values. All of the records with this SOURCE are due to unknown (non-existent) postal codes.
- 1 A province code was assigned based on only the first character of this postal code. No other geographic codes or latitude and longitude were assigned. All of the records with this SOURCE are due to unknown (non-existent) postal codes.
- 0 The first character of this postal code is not in the set used for Canadian postal codes. No geographic codes assigned.
- V A full set of geographic codes and latitude/longitude were derived from an exact match to a PCCFUNIQ record for a postal code with an FSA of V1H or V9G, including geography from the period prior to the rebirth of those FSAs in their new locations. This SOURCE only occurs where the program R5xOLD or I5xOLD is used to recode British Columbia FSAs which were moved by Canada Post.

Coding Completing Summary Code (CCSUM)

In Versions 3, 4 and 5, this field is not present in either output file, but is calculated for frequency tables in the printouts. This field shows how many geographic codes were assigned. It is the sum over all of the coding completion variables, which each have a value of 1 if a given geographic code was assigned.

- 0 No geographic codes were assigned, or latitude and longitude.
- 1 One geographic code was assigned: a province code, with no latitude or longitude.
- 2 Two geographic codes were assigned: a province and Census Division or Census Metropolitan Area / Census Agglomeration code, plus an average latitude and longitude for the FSA or aggregate of FSAs.
- 3 Three geographic codes were assigned: province, Census Division and Census Subdivision; or province, Census Division and Census Metropolitan Area or Census Agglomeration, plus an average latitude and longitude for the FSA or aggregate of FSAs.
- 4 Four geographic codes were assigned: province, Census Division, Census Subdivision, and Census Metropolitan Area or Census Agglomeration, plus an average latitude and longitude for the FSA or aggregate of FSAs.
- 6 Six geographic codes were assigned: province, Census Division, Census Subdivision, Census Metropolitan Area or Census Agglomeration, Census Tract (if applicable) and Dissemination Area, plus the latitude and longitude of the Dissemination Area.
- 7 All 7 geographic codes were assigned: province, census division, census subdivision, census metropolitan area or census agglomeration, dissemination area, and census block, plus the latitude and longitude of the block or blockface.

Number of Census Subdivisions (NCSD)

```
@ 71 NCSD 1. /* NUMBER CSD POSSIBLE AT THIS PCODE (1-9+) */ [@ 65 NCSD 1. on GEOPROB file]
```

This field indicates the number of Census Subdivisions served in whole or in part by this postal code. A value of 9 indicates 9 or more. Most urban postal codes serve only one Census Subdivision.

Number of Census Divisions (NCD)

```
@ 72 NCD 1. /* NUMBER CD POSSIBLE AT THIS PCODE (1-9+) */ [@66 NCD 1. on GEOPROB file]
```

This field indicates the number of Census Divisions served in whole or in part by this postal code. A value of 9 indicates 9 or more. Most urban postal codes serve only one Census Division.

Representative Point Flag (RPF)

```
@ 73 RPF $1. /* REPRESENTATIVE POINT FLAG */ [@67 RPF $1. on GEOPROB file]
/* FOR LAT & LONG CENTROID (REP POINT): */
/* 1=BLOCKFACE REP POINT */
/* 2=BLK REP POINT DETERMINED BY PCCF */
/* 3=BLK REP POINT IMPUTED W/IN DA (SOURCE=F D) */
/* 4=BLK REP POINT IMPUTED W/IN PCODE (SOURCE=C) */
/* 5=DA REP POINT IMPUTED W/IN PCODE (SOURCE=C) */
/* 6=DA REP POINT IMPUTED W/IN FSA (SOURCE=I) */
/* 8=AV LAT LONG FOR FSA/PART (SOURCE= 3 2 1) */
/* 9=REP POINT MISSING */
```

Service Type (SERV)

```
@ 74 SERV $1. /* SERVICE TYPE (1,2=WITH STREET ADR) */ [@68 SERV $1. on GEOPROB file]
/* 1=STREET ADR W/ LETTER CARRIER SERVICE */
/* 2=STREET ADR W/ ROUTE SERVICE */
/* 3=PO BOX */
/* 4=ROUTE SERVICE W/O STREET ADR */
/* 5=GENERAL DELIVERY */
/* 9=UNKNOWN (WHEN SOURCE=I 3 2 1) */
/* 0=UNKNOWN (WHEN SOURCE=F D C) */
```

Precision (PREC)

```
@ 75 PREC $1. /* PRECISION OF LAT LONG (0=LEAST;9=MOST) */ [@69 PREC $1. on GEOPROB file]
/* 9=1 BLKF IN 1 DA; DMT IN (A B E G) */
/* 8=1 BLK IN 1 DA; DMT IN (A B E G) */
/* 7=1 DA; DMT IN (A B E G) */
/* 6=2+ DA'S; DMT IN (A B E G) */
/* ABOVE SERVICE POINTS < 200 M DIST */
/* SO DA'S ADJACENT AND FEW */
/* 5=1+ DA'S; DMT IN (H-Z), FROM WCF POP WEIGHTS */
/* 4=DA, ETC IMPUTED FROM FSA POP WEIGHTS */
/* 3=CODES IMPUTED FROM FSA W/OUT WT */
/* 2=CODES IMPUTED FROM FSA12 W/OUT WT */
/* 1=PR IMPUTED FROM FSA1 */
/* 0=NO GEOGRAPHIC CODING POSSIBLE (NOT EVEN PR) */
```

Number of Address Ranges (NADR)

```
@ 76 NADR 1.; /* NUMBER ADDRESS RANGES FOR THIS PCODE (1-9+) */ [@70 NADR 1. on GEOPROB file]
```

This field indicates the number of address ranges served by this postal code. A value of 9 indicates 9 or more. The address ranges may be on different streets. Only the first or last address range (if applicable) is shown in the problem file output and printout

The following two fields (CODER and CPCCODE) are not present on the GEOPROB file:

Coder (CODER)

```
@ 78 CODER $3. /* CODER: R5A=GEORES5A APR 2007 PCCF */ [ not on GEOPROB file]
```

The PCCF+ program and version is indicated by the CODER field. For example, CODER I5A indicates that the GEOINS program was run using the April 2007 vintage of the PCCF. Information about the coder is necessary for interpretation of the Canada Post Community Code (CPCCODE), and for understanding why certain categories of postal codes were coded the way they were. Using the wrong program to do the coding (GEORES for office coding, or GEOINS for residential coding—the opposite of what was intended) could easily go undetected without this field.

Canada Post Community Code (CPCCODE)

```
@ 82 CPCCODE $CHAR4. /* CANADA POST COMMUNITY CODE (SEQUENTIAL) */ [not on GEOPROB file]
/* WARNING: THIS CODE CHANGES WITH EACH VINTAGE */
/* OF PCCF, SO MUST ONLY BE USED WITH CPCNAMES */
/* FILE ASSOCIATED WITH ABOVE CODER */
/* WILL BE MISSING IF SOURCE=C */
/* NOTE: TO REGENERATE PROBLEM FILE FROM GEOG1: */
/* IF LINK LT 5; MERGE TO LOOKUP CPCOMM */
/* CSDNAMES CDNAMES */
```

Canada Post Communities were numbered sequentially after arranging in alphabetical order within provinces and territories. The numbering of communities will clearly change anytime there is an addition, deletion of a community, or change in spelling of a community name. That is why the CPCCODE can only be interpreted if correctly paired with the corresponding list of communities (see file PCCFYMM.CPCOMM). For example, CODERs R5C and I5C use the community list of March 2008; the use of a list from any other month or year would be meaningless.

HR Health Region

```
@ 87 HR $CHAR2. /* HEALTH REGION CODE (UNIQUE WITHIN PR) (99=MISSING) */
[@ 51 HR $CHAR2. on GEOPROB file]
```

Health regions are subprovincial areas defined by provincial departments of health. In some cases, those definitions may split dissemination areas or blocks between two or more health regions, but to simplify the coding here, each DA+BLK has been uniquely assigned to a single health region. Since each health region covers many DAs, most of which are not split, this simplification should have little effect on the number of events coded to each health region. The two-character HR code is only unique within a given province. Where a province only uses a single digit to represent a health region, a zero has been added preceding that digit. Note that the definitions used were generally those in effect on 31 December 2007, but the

definitions may be changed by provinces at any time, particularly in provinces without a long history of producing data by health region. See Appendix H1 for a summary of health regions by province and type, and Appendix H3 for a complete list of health regions. File HRNAM07 shows the name of each HR, including unofficial descriptive names for unnamed HRs.

Health District (SUB)

```
@ 89 SUB $CHAR3. /* HEALTH DISTRICT CODE - UNIQUE WITHIN PR OR PR+HR (QC ONLY) */
[@ 53 SUB $CHAR3. on GEOPROB file] /* BLANK=NOT APPLICABLE; 999=APPLICABLE BUT MISSING */
```

Health districts are geographically-defined areas which are smaller than health regions. They are defined by several but not all provincial departments of health. In most but not all cases, health districts are subdivisions of health regions. In all cases, a health district code is only unique within a given province. In Quebec and Alberta, the health district (CLSC) code is only unique within the province and health region. Where a province uses only one or two characters to represent a health district, the second and/or third characters will be blank. See Appendix H2 for a summary of health districts by province and type, and Appendix H4 for a complete list of health districts. File SUBNAM07 shows the name of each health district. Source: Same as for health regions. Alphabetic codes corresponding to Toronto Health Planning Areas (major and minor areas) have been appended as a suffix to Ontario health district code 95. The definitions for the latter were provided by the Toronto Public Health Department.

The following 5 fields are not present on the GEOPROB file:

Community Size (CSIZE)

```
@ 93 CSIZE $1. /* COMMUNITY SIZE CODE (BASED ON CMACA POP2006) */ [not present on GEOPROB file]
/* 1=1,500,000+ */
/* 2= 500,000-1,499,999 */
/* 3= 100,000- 499,999 */
/* 4= 10,000- 99,999 (ANY CMACA < 100,000) */
/* 5= < 10,000 (ANY NON-CMACA) */
/* 9= MISSING */
```

Community Size is defined in terms of the 2006 census population in each census metropolitan area or census agglomeration (CMA or CA), as shown above. Community Size 1 consists of Toronto, Montreal and Vancouver CMAs. Community Size 2 consists of Ottawa-Gatineau, Edmonton, Calgary, Québec, Winnipeg and Hamilton CMAs. Community Size 3 includes all 18 other CMAs plus 7 of the larger CAs. Community Size 4 includes all 106 other CAs. Community Size 5—"rural and small town Canada"—includes all places not included in any CMA or CA. (i.e., places with an urban area population less than about 10,000, plus rural areas). *Note that the lower threshold of CSIZE=1 has been increased, since Ottawa-Hull is much closer in size to Edmonton and Calgary than to Montreal, Vancouver or Toronto.*

Note that almost all records with a valid FSA (whether or not the rest of the postal code is valid) can be assigned to a CMA or CA, and thus to a CSIZE category. According to Statistics Canada's recommended definition, rural and small town Canada (Plessis et al, 2001) is defined as CSIZE='5'.

Neighbourhood Income Quintile (QAIPPE)

```
@ 95 QAIPPE $1. /* 2006 NEIGHBOURHOOD INCOME QUINTILE (WITHIN CMACA): */
/* 1=LOWEST INCOME QUINTILE */ [not present on GEOPROB file]
/* 5=HIGHEST INCOME QUINTILE */
/* 9=MISSING */
```

Neighbourhood income per person equivalent (IPPE) is a household size-adjusted measure of household income, based on 2006 census summary data at the DA level, and using person-equivalents implied by the 2006 low income cut-offs (LICOs). Note that the 2001 single person equivalents were 1.00 for 1 person, 1.25 for 2 persons, 1.55 for 3 persons, 1.95 for 4 or 5 persons, and 2.44 for 6 or more persons sharing the same household (regardless of age). For a description of how IPPE was calculated previously based on 1991 census summary data and single-person equivalents from the 1991 LICOs, see Ng et al. (1993).

Within each CMA, CA or provincial residual area not in any CMA or CA, the DA average IPPE was used to rank all DAs, and then the population was divided into approximate fifths, thus creating community-specific income quintiles based on IPPE. The quintiles were defined within each area in order to better reflect the relative nature of this measure, to minimize the effect on household welfare of large differences in housing costs, and to ensure that each CMA or CA would have about an equal percentage of the population in each income quintile.

The following five fields are new beginning with Version 4:

Statistical Area Classification Type (SACTYPE)

```
@97 SACTYPE    $1.  /* STATISTICAL AREA CLASSIFICATION TYPE          */
                /* 1=CENSUS METROPOLITAN AREA                    */
                /* 2=TRACTED CENSUS AGGLOMERATION                */
                /* 3=NON-TRACTED CENSUS AGGLOMERATION            */
                /* 4=NON-CMACA, STRONG CMACA INFLUENCE           */
                /* 5=NON-CMACA, MODERATE CMACA INFLUENCE         */
                /* 6=NON-CMACA, WEAK CMACA INFLUENCE             */
                /* 7=NON-CMACA, NO CMACA INFLUENCE               */
                /* 8=NON-CMACA, TERRITORIES                      */
                /* 9=NON-CMACA, CMACA INFLUENCE UNKNOWN          */
                /* .=MISSING SACTYPE                             */
```

In census metropolitan areas and census agglomerations, the Statistical Area Type is defined by characteristics of the CMACA. In areas outside of any census metropolitan area or census agglomeration, the Statistical Area Type is defined by characteristics of the census subdivision, based on commuting flows to work in census metropolitan areas or census agglomerations (metropolitan influence zone or MIZ). For more details, see the following source: McNiven C, Puderer H, Janes D. *Census Metropolitan Area and Census Agglomeration Influence Zones (MIZ): A Description of the Methodology*. Geography Working Paper Series No. 2000-2. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000.

Community Size and Metropolitan Influence Zone (CSIZEMIZ)

```
@ 98 CSIZEMIZ  $CHAR1. /* COMMUNITY SIZE AND METROPOLITAN INFLUENCE ZONE */
                /* 1=1.5 MILLION AND OVER                        */
                /* 2=500,000-1,499,999                          */
                /* 3=100,000- 499,999                            */
                /* 4= 10,000- 99,999                             */
                /* 5=NON-CMACA: STRONG MIZ                        */
                /* 6=NON-CMACA: MODERATE MIZ                      */
                /* 7=NON-CMACA: WEAK/NO MIZ, TERRITORIES         */
                /* 8=NON-CMACA: UNKNOWN MIZ                       */
                /* 9=UNKNOWN IF CMACA OR NOT                      */
```

This variable is a combination of the CSIZE variable for urban areas, and of the SACTYPE variable for rural areas. See the definitions of each for more information.

North-South Relationship (NSREL)

```
@ 99 NSREL     $1.  /* NORTH-SOUTH RELATIONSHIP:          */
                /* N=NORTH                    */
                /* P=NORTH TRANSITION          */
                /* R=SOUTH TRANSITION          */
                /* S=SOUTH                     */
                /* 9=MISSING                   */
```

The North-South relationship classification (NSREL) is described in the following source: McNiven C, Puderer H. *Delineation of Canada's North: An examination of the North-South relationship in Canada*. Geography Working Paper Series No. 2000-3. Catalogue No. 92F0138MPE. Ottawa: Geography Division, Statistics Canada, 2000. For PCCF+, NSREL is determined by the 1996 census subdivision code.

Canada Post Air Stage Community (AIRLIFT)

```
@100 AIRLIFT  $CHAR1. /* *=CANADA POST AGE STAGE COMMUNITY (6+ MONTHS/YEAR) */
```

“An Air Stage Office is a Post Office to or from which all mail must be airlifted for more than six (6) months of every year as a viable surface transportation alternative is not available. These offices are generally confined to remote or isolated communities. An office designated an Air Stage Office is deemed to be Air Stage for the whole year.”

<http://www.canadapost.ca/tools/pg/manual/PGairstage-e.asp> (Last updated: 2007-09-17)

Urban Block Flag (BLKURB)

```
@101 BLKURB $1. /* URBAN BLOCK FLAG */
/* 1=URBAN BLOCK */
/* 0=RURAL BLOCK */
/* 9=URBAN-RURAL STATUS OF BLOCK UNKNOWN */
```

Use of this field is not recommended, because coding to block in areas served by rural postal services is always imputed from a randomly selected dissemination area, based on population weights for each block served, so classification of such blocks as urban or rural is only probabilistic. Classification based on urban postal codes is much more certain, as the specific block is almost always known with much greater certainty. This field is defined as follows: IF UARA GE 9910 THEN BLKURB=0; ELSE IF UARA NE . THEN BLKURB=1; For geography based on postal codes, a far more robust definition is Statistics Canada's recommended definition of "rural and small town Canada" (Plessis et al, 2001) -- where CSIZE='5' (all non-CMACA).

Federal Electoral District -- 2003 Representation Order (FED)

```
@ 103 FED $CHAR3. /* FEDERAL ELECTORAL DISTRICT, 2003 LIST */
```

A Federal Electoral District is the area represented by member of the House of Commons. The Federal Electoral Districts used for the 2006 Census were based on the 2003 Representation Order (list). If missing, FED will be set to 999. If an exact match to the PCCF was not possible, but the postal code indicated an urban FSA, then the FED may have been imputed proportionally to the population using that FSA (SOURCE=I). Otherwise (when SOURCE=3, 2 or 1), the FED will be 999. File FEDNAMES shows the official name of each FED.

Economic Region (ER)

```
@107 ER $2. /* ECONOMIC REGION (UNIQUE WITHIN PR) */
```

An economic region (formerly "subprovincial region") is a collection of complete census divisions (except for one CD in Ontario which is split between 2 ERs) which is used for analysis of regional economic activity. The Ontario CD of Halton (3524) is split between the ER of Hamilton-Niagara Peninsula and the ER of Toronto. The ER code is only unique within a given province or territory. File ERNAMES shows the name of each ER.

Census Agricultural Region (AR) or Crop District

```
@ 110 AR $CHAR2. /* CENSUS AGRICULTURAL REGION (CROP DISTRICT)-UNIQUE IN PR */
/* 00=TERRITORIES; 99=MISSING BUT APPLICABLE */
```

Census agricultural regions are used by the Census of Agriculture for disseminating agricultural statistics. ARs are composed of groups of adjacent census divisions, except in Saskatchewan, where they are composed of groups of adjacent census consolidated subdivisions (CCS) not respecting census division boundaries. ARs are not defined for the territories. The AR code is unique only when preceded by the province code. File ARNAMES shows the name of each AR, including unofficial descriptive names for otherwise unnamed ARs.

Census Consolidated Subdivision (CCS)

```
@ 113 CCS $CHAR3. /* CENSUS CONSOLIDATED SUBDIVISION--UNIQUE IN PR (999=MISSING)*/
```

CCSs are composed of groups of adjacent census subdivisions within the same census division. The CCS code is unique only when preceded by the province and census division codes. File CCSNAMES shows the name of each CCS, which is the same as that of its largest CSD.

Postal Installation Geography Flag (POINSTAL)

```
@117 POINSTAL $CHAR1. /* POSTAL INSTALLATION GEOGRAPHY FLAG (0=NO, 1=YES, 2=UNKN) */
Quality indicators for PCCF links at each of three levels (QICOMM, QISTREET, QIADDR):
```

Quality Indicator for PCCF Link to Community (QICOMM)

```
@118 QICOMM $1. /* QUALITY INDICATOR FOR PCCF LINK TO COMMUNITY */
/* A=VERY GOOD, B=GOOD, C=FAIR, N=NO MATCH, U=UNKNOWN */
```

Quality Indicator for PCCF Link to Street (QISTREET)

```
@119 QISTREET $1. /* QUALITY INDICATOR FOR PCCF LINK TO STREET */
/* A=VERY GOOD, B=GOOD, C=FAIR, N=NO MATCH, U=UNKNOWN */
```

Quality Indicator for PCCF Link to Address Range (QIADDR)

```
@120 QIADDR $1. /* QUALITY INDICATOR FOR PCCF LINK TO ADDRESS RANGE */
/* A=VERY GOOD, B=GOOD, C=FAIR, N=NO MATCH, U=UNKNOWN */
```

Geocoding Method Used to Build Regular PCCF Record (GMETHOD)

```
@121 GMETHOD $CHAR1. /* GEOCODING METHOD USED TO BUILD REGULAR PCCF RECORD */
/* 1=AUTO, 2=CENSUS, 3=2001 CONVERSION, 4=MANUAL */
```

1981 Enumeration Area (EA81UID)

```
@ 123 EA96UID $CHAR8. /* 1981 ENUMERATION AREA = PR(2)+FED(3)+EA(3) */
```

This field shows the 1981 enumeration area (PRFEDEA), based on the 2006 dissemination block to 1981 enumeration area correspondence file.

1986 Enumeration Area (EA86UID)

```
@ 132 EA86UID $CHAR8. /* 1986 ENUMERATION AREA = PR(2)+FED(3)+EA(3) */
```

This field shows the 1986 enumeration area (PRFEDEA), based on the 2006 dissemination block to 1986 enumeration area correspondence file.

1991 Enumeration Area (EA91UID)

```
@ 141 EA91UID $CHAR8. /* 1991 ENUMERATION AREA = PR(2)+FED(3)+EA(3) */
```

This field shows the 1991 enumeration area (PRFEDEA), based on the 2006 dissemination block to 1991 enumeration area correspondence file.

1996 Enumeration Area (EA96UID)

```
@ 150 EA96UID $CHAR8. /* 1996 ENUMERATION AREA = PR(2)+FED(3)+EA(3) */
```

This field shows the 1996 enumeration area (PRFEDEA), based on the 2006 dissemination block to 1996 enumeration area correspondence file.

2001 Dissemination Area (DA01UID)

```
@ 159 DA01UID $char8. /* 2001 DISSEMINATION AREA (PRCDDA) */
```

2006 Dissemination Area (DA61UID)

```
@ 168 DA01UID $char8. /* 2006 DISSEMINATION AREA (PRCDDA) */
```

The following three fields (ADR, CSDNAME, CSDTYPE) are not present on the HLTHOUT file, they only appear on the GEOPROB file:

Building Name and Address (ADR)

```
@ 72 ADR $50. /* BLDG NAME (IF APPL), STREET ADR, CITY */ [only on GEOPROB file]
```

This field shows either (1) a somewhat abbreviated building name (if applicable), plus a street address and Canada Post community name (if available), or (2) a designated place name (if applicable) followed by the designated place type within parentheses, followed by a space plus the Canada Post community name (if available), followed by a colon (:) plus an abbreviated census division name and type code (if available), or (3) the Canada Post community name (if available), followed by a colon, plus an abbreviated census division name and type code. The contents of this field are intended to provide the most useful written description of the exact location which can be shown more or less readably in 50 spaces. *This field only applies to problem records; it is not shown on the HLTHOUT file or printout.*

With respect to Canada Post community names, note that the service areas of postal communities are defined by Canada Post with little regard for municipal boundaries established by local authorities, and that is frequently a source of confusion for geographic coding. Also, many smaller rural municipalities have no post office of their own, so those municipal names will appear only rarely in mailing addresses.

The census division name (if present) shows the first 16 characters of the alphabetic name corresponding to the PRCD code of the *Standard Geographical Classification*, plus a space, followed by the 3-character CSDTYPE. If the CD field is missing (00), the 20 characters immediately following the colon will be blank. If a building name and address plus Canada Post community name are shown, then no census division name and type will be shown.

Census Subdivision Name (CSDNAME)

```
@123 CSDNAME $CHAR8. /* FIRST 8 CHAR OF CSD NAME */ [only on GEOPROB file]
```

This field contains the first 8 characters of the Census Subdivision Name. If the Census Subdivision (the last three positions of the PRDCD field) is missing (999), then the CSDNAME field will be blank. A truncated version of the CSDNAME field is shown only on the GEOPROB file and printout; it does not appear on the HLTHOUT file or printout. See file CSDNAMES for the complete name and corresponding CSDTYPE.

Census Subdivision Type (CSDTYPE)

```
@131 CSDTYPE $2. /* CSD TYPE WITH * REPLACING TRAILING BLANK */ [only on GEOPROB file]
```

This field contains a one or two character abbreviation of the Census Subdivision Type. To facilitate uploading and downloading, if the second (and last) character of this field is blank, the blank will be replaced by an asterisk in order to ensure that every record will be of the same fixed length. (Uploading and downloading utility programs frequently delete trailing blanks, which would otherwise produce variable record lengths for successive records. The asterisk at the end of each record ensures that this won't happen. This field is shown only on the GEOPROB file and printout; it does not appear on the HLTHOUT file or printout.

Distance (DISTANCE)

This field shows the distance (in km) from the latitude and longitude centroid of the Montreal Children's Hospital to the centroid of the HLTHOUT record. If latitude and longitude of the HLTHOUT record could not be determined (that is, if their values were "."), then DISTANCE will be missing (indicated by a single period "."). This field appears only on the printout of the HLTHOUT dataset. It is not written to the corresponding file, since DISTANCE was calculated merely as an illustration of how the latitude and longitude information can be used. For more details on the use of latitude and longitude for the calculation of distances using the PCCF, see Ng E and Wilkins R, How far is it to the nearest hospital? *Health Reports* 1993;5(2):157-177. A SAS program for calculating distances from each record in one file to the record for the record with the closest latitude and longitude on another file is included (DIST5X.SAS): see Appendix K.

Message (MESSAGE)

A brief explanatory message corresponding to the link type code (LINK) appears in the summary table and on the GEOPROB printout only; it does not appear in the GEOPROB or HLTHOUT files.

```
-----
/* BRIEF MESSAGE DESCRIBING PROBLEM */
-----
0 'ERROR: NO MATCH TO PCCF---CHECK PCODE/ADDRESS &OR CODE MANUALLY';
1 'ERROR: LINKED TO PO GEOG---CODE MANUALLY IF RESID ADD AVAILABLE';
2 'WARNING: NON-RESIDENTIAL----CHECK PCODE/ADDRESS (LEGITIMATE RES?)';
3 'WARNING: BUSINESS BLDG-----CHECK PCODE/ADDRESS (LEGITIMATE RES?)';
4 'WARNING: COMMERCE/INSTITU----CHECK PCODE/ADDRESS (LEGITIMATE RES?)';
5 'WARNING: RETIRED PCODE-----CHECK PCODE/ADDRESS IF OLD DMT UNKNOWN';
6 'NOTE: MULT MATCH TO CSD---DISTRIBUTED AMONG APPLIC DA/BLK/BLKFACE';
7 'NOTE: MULT MATCH TO CSD---DISTRIBUTED BY POP WEIGHTS OBSERVED';
9 'NO PROB (ERR,WARN,NOTE)-----NO ACTION REQUIRED';
-----
```

The link type codes (LINKs) and corresponding messages (MESSAGEs) are arranged in hierarchical order, starting with 0 for the most serious problems, and going to 9 for no problem at all (not even a warning or note). If more than one type of

problem was present, only the worst type is shown. The "no problem" message only appears on the summary table, since records with no problems (error, warning or note) are not part of the GEOPROB file or printout.

The following three fields are only present on the output from R5xOLD and I5xOLD, which are used with older data for assigning geographic codes to British Columbia FSAs which have now been moved by Canada Post:

Birth date of postal code as used in this location (BTHDATC)

```
@177 BTHDATEC $CHAR6. /* YYYYMM OF BIRTH DATE OF PCCF PCODE */
[only present on OLDCODES and HLTHOUT2 files produced by R5xOLD or I5xOLD]
```

Retirement date of postal code as used in this location (RETDATC)

```
@184 TDATEC $CHAR6. /* YYYYMM OF RETIREMENT DATE OF PCCF PCODE */
[only present on OLDCODES and HLTHOUT2 files produced by R5xOLD or I5xOLD]
```

Postal code vintage (PCVDATC)—for alternate programs R5xOLD, I5xOLD only

```
@191 VDATC $CHAR6. /* YYYYMM OF USER'S POSTAL CODE VINTAGE (AT THIS LOCATION) */
[from user input and written to OLDCODES and HLTHOUT2 files produced by R5xOLD or I5xOLD]
```

In this context, vintage refers to the year and month when the user's postal code was reported or generated (looked up). In most cases, the date of the event will be a reasonable proxy for the vintage of the postal code on the user's file. However, if postal codes were missing when the data were collected, and subsequently looked up or generated (manually or by computer), then the vintage of the postal code may be months or even years later than the date of the event. Note that it is common for retired postal codes to remain in use for many months or even years after their retirement by Canada Post. However, it is safe to assume that newly created postal codes are not reported until after the postal code birth date indicated by Canada Post.

This field is created by user input and is only present in the OLDCODES and HLTHOUT2 files produced by the supplemental programs R5x and I5OLD which are used to assign the old geographic coding to British Columbia FSAs V1H and V9G. Postal codes with those two FSAs were first retired and then subsequently moved and reused by Canada Post. V1H was moved about 400km south beginning 1 July 1997, while V9G was moved about 100km south beginning 1 April 1999. Beginning with Version 3E, the regular programs GEORES3x and GEOINS3x print a warning if your data contain either of the two FSAs which were moved. *If your data do not include postal codes with those FSAs, or if your data only contains postal codes of vintage April 1999 or later, then use of the alternate programs is unnecessary and will have no effect on the coding produced by the regular programs GEORES5x and GEOINS5x.*

**APPENDIX D:
SAMPLE OUTPUTS
FROM THE PCCF+ PACKAGE**

Summary table of results of the automated geographic coding

SUMMARY OF AUTOMATED CODING RESULTS USING GEOCODES/PCCF VERSION 5

RECORDS	PERCENT	PROB	MESSAGE	ACTION
3996	100.00		TOTAL RECORDS INPUT FROM HLTHDAT (ID + PCODE)	
131	3.28	0	ERROR: NO MATCH TO PCCF---CHECK PCODE/ADDRESS &OR CODE MANUALLY	
5	0.13	1	ERROR: LINKED TO PO GEOG--CODE MANUALLY IF RESID ADD AVAILABLE	
3	0.08	2	WARNING: NON-RESIDENTIAL--CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
3	0.08	3	WARNING: BUSINESS BLDG----CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
241	6.03	4	WARNING: COMMERC/INSTITU--CHECK PCODE/ADDRESS (LEGITIMATE RES?)	
65	1.63	5	WARNING: RETIRED PCODE----CHECK PCODE/ADDRESS IF OLD DMT UNKNOWN	
1	0.03	6	NOTE: MULT MATCH CSD-PCCF-DISTRIBUTED AMONG APPLIC DA/BLK/BLKF	
535	13.39	7	NOTE: MULT MATCH CSD-WCF--DISTRIBUTED BY POP WEIGHTS OBSERVED	
3012	75.38	9	NO PROB (ERR,WARN,NOTE)---NO ACTION REQUIRED	
8	0.20		NOT CODED AT ALL	
39	0.98		PARTIALLY CODED TO PR ONLY	
2	0.05		PARTIALLY CODED TO PR + (CD OR CMA)--& APPROX LAT LONG	
12	0.30		PARTIALLY CODED TO PR+CD+CMA--AND APPROX LAT LONG	
8	0.20		PARTIALLY CODED TO PR+CD+CMA+CSD--AND APPROX LAT LONG	
3927	98.27		FULLY CODED TO PR+CD+CMA+CSD+CT+BLK--AND DA/BLK/BLKFACE LAT LONG	

Sample printout from the GEOPROB dataset (.GEO)

GEOCODES/PCCF VERSION 5

PARTIAL PRINT OF GEOPROB FILE (ERRORS & WARNINGS, BUT NO NOTES)

ID	PCODE	PRCDCSD	CMA	CT	DABLK	LL	HRSUB	DPL	DIAG	BLDG NAME,ADR(CPCOMM:CMA/DPL)	:CDNAME	CDTYP	CSDNAME	TY
0 ERROR: NO MATCH TO PCCF---CHECK PCODE/ADDRESS &OR CODE MANUALLY														
1202050810	A1X5J7	1001485	001	301.02	013501	4705	01	000	90I31994.	St. John's CMA	:Avalon Peninsul	DIV	CONCEPTIT*	
1201026310	B2M5B3	1200999	999	999.99	999900	4506	99	999	902..892.		:		*	
1302025710	G0K2K0	2410005	000	000.00	007009	4806	01	000	90I949949	NOT CMACA	:Rimouski-Neiget	MRC	ESPRIT-SM*	
1301031010	H9G3X9	2466140	462	521.01	235801	4507	06	000	90I31994.	Montréal CMA	:Montréal	CU	DOLLARD-V*	
1602451310	K7K2T0	3510010	521	008.00	018405	4407	0241	000	90I11994.	Kingston CMA	:Frontenac	CTY	KINGSTONC*	
1604153110	M3Y4A1	3520005	535	999.99	999900	4307	999999	999	902..892.	Toronto CMA	:Toronto	DIV	TORONTO C*	
1604305110	R3N3L2	4611040	602	008.00	038001	4909	10	000	90I11994.	Winnipeg CMA	:Winnipeg	DIV	WINNIPEGC*	
1802106710	V1S4X1	5933042	925	006.00	004302	5012	14	000	90I21994.	Kamloops CAL	:Thompson-Nicola	RD	KAMLOOPSC*	
1802068310	V4T4J5	5935027	915	102.02	015502	4911	13	175	90I41994.	Kelowna CAL:Westbank (UNP)	:Central Okanaga	RD	CENTRAL RD	
1803049810	V9C5T3	5917044	935	154.02	048004	4812	41	000	90I51994.	Victoria CMA	:Capital	RD	LANGFORDDM	
1 ERROR: LINKED TO PO GEOG--CODE MANUALLY IF RESID ADD AVAILABLE														
1604055531	R4J1A1	4611999	602	999.99	999900	4909	99	000	JZ1I22824.	HEADINGLEY:Winnipeg CMA	:Winnipeg	DIV	*	
1201059710	A1X4G9	1001999	001	999.99	999900	4705	99	000	K1I318341	BOX 18001:18060 STN MAIN UPPER GULLIES			*	
2 WARNING: NON-RESIDENTIAL PCODE--CHECK PCODE/ADDRESS (LEGIT RES?)														
1304154932	H3L1B9	-2400999	462	999.99	999900	.	. 99	999	E2F119191	CENTRE MEDICAL HENRI-BOURASSA 222 HENRI-BOURA MONT			*	
1603422510	L4C9S7	-3500999	535	999.99	999900	.	. 999999	999	E2F119191	BUSINESS BUILDING 120 NEWKIRK RD RICHMOND HILL			*	
1602226510	T2S2T6	-4800999	825	999.99	999900	.	. 99	999	E2F119191	FOODVALE OFFICE COMPLEX 5005 ELBOW DR SW CALGARY			*	
1601088310	T5N4A3	-4800999	835	999.99	999900	.	. 99	999	E2F119191	PEOPLES TRUST PLAZA 10216 124 ST NW EDMONTON			*	
1302161110	H3N2Y1	-2400999	462	999.99	999900	.	. 99	999	G2F119191	VIDEOTRON LTEE 405 OGILVY AV 200 MONTREAL			*	
1804030033	V2A5A9	-5900999	913	000.00	999900	.	. 99	999	G2D119171	CITY OF PENTICTON 171 MAIN ST PENTICTON			*	
3 WARNING: BUSINESS BLDG----CHECK PCODE/ADDRESS (LEGITIMATE RES?)														
1604118533	L6Y2N4@3521010	535	572.05	020201	4307	0653	000	000	E3F111191	APARTMENT BLDG 430 MCMURCHY AVE S BRAMPTON		BRAMPTONC*		
1604503732	T5H4B9@4811061	835	046.00	020808	5311	25	000	000	E3F111191	HYS MEDICAL CENTRE 11010 101 ST NW EDMONTON		EDMONTONC*		
4 WARNING: COMMERC/INSTITU--CHECK PCODE/ADDRESS (LEGITIMATE RES?)														
1801082533	V5G4J3?5915025	933	230.01	139201	4912	22	000	000	BG4F111191	BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY 4200 BURN	BURNABY	BURNABY C*		
1202190833	A1B1S5@1001519	001	013.00	025301	4705	01	000	000	G4F111191	ST PATRICKS MERCY HOME 146 ELIZABETH AVE ST. JOHN'	ST. JOHN'	ST. JOHN C*		
1202154133	A2A2E1@1006017	010	000.00	003010	4805	03	000	000	G4D112171	CENTRAL NEWFOUNDLAND REGIONAL HEALTH CENTRE 5 GRAN	GRAND FAT*			
1303089633	H2C3H6@2466025	462	277.00	265801	4507	06	000	000	G4F111191	LES RESIDENCES LAURENDEAU,LEGARE,LOUVAIN 1725 MONT	MONTREÁLV*			
1603169333	M1H3A1@3520005	535	356.00	361001	4307	0495N	000	000	G4F111191	CEDARBROOK LODGE 520 MARKHAM RD SCARBOROUGH		TORONTO C*		
1602154410	M9W4L3@3520005	535	246.00	184101	4307	0495A	000	000	G4F111191	KIPLING ACRES HOME FOR THE AGED 2233 KIPLING ETOBI	TORONTO	TORONTO C*		
1604515931	N2L3G1@3530016	541	106.01	029605	4308	0765	000	000	G4F111191	UNIVERSITY OF WATERLOO 200 UNIVERSITY AVE W WATERL	WATERLOOC*			
1604443433	R1N3V4@4609029	607	000.00	001414H4909	40	000	000	000	G4F112181	LION'S PRAIRIE MANOR 24 9TH ST SE PORTAGE LA PRAIR	PORTAGE C*			
1603468632	R3N1V9@4611040	602	510.02	036601	4909	10	000	000	G4F111191	CANADIAN FORCES BASE WINNIPEG, KAPYONG BARRAC WINN	WINNIPEGC*			
1601086332	R7N1R7@4617050	000	000.00	001114	5110	60	000	000	G4F111191	DAUPHIN GENERAL HOSPITAL 625 3RD ST SW DAUPHIN		DAUPHIN C*		
1603548732	S4S3B4@4706027	705	002.02	049002	5010	04	000	000	G4F111191	EXTENDICARE/PARKSIDE 4540 RAE ST REGINA		REGINA C*		
1602539533	T5K0L4@4811061	835	032.02	015604H5311	25	000	000	000	G4F111191	GENERAL HOSPITAL 11111 JASPER AVE NW EDMONTON		EDMONTONC*		
1803100131	V6T1K2@5915020	933	069.00	094705	4912	32	000	000	G4D111171	WALTER GAGE RESIDENCE (UBC) 5959 STUDENT UN VANC	GREATER RD			

APPENDIX E

Census Metropolitan Areas and Census Agglomerations in numerical order, 2006 Census classification, indicating if area is census tracted

APPENDICE E

Régions métropolitaines de recensement et Agglomérations de recensement en ordre numérique, selon la classification du recensement de 2006, avec indication si les secteurs de recensement s'appliquent

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs
000	000.00	Not in CMA/CA -- Non dans une RMR/AR		
001	999.99	CMA/RMR	St John's	CT/SR
005	000.00	CA/AR	Bay Roberts	
010	000.00	CA/AR	Grand Falls-Windsor	
015	000.00	CA/AR	Corner Brook	
105	000.00	CA/AR	Charlottetown	
110	000.00	CA/AR	Summerside	
205	999.99	CMA/RMR	Halifax	CT/SR
210	000.00	CA/AR	Kentville	
215	000.00	CA/AR	Truro	
220	000.00	CA/AR	New Glasgow	
225	000.00	CA/AR	Cape Breton (Sydney)	
305	999.99	CA/AR	Moncton	CT/SR
310	999.99	CMA/RMR	Saint John	CT/SR
320	000.00	CA/AR	Fredericton	
328	000.00	CA/AR	Bathurst	
329	000.00	CA/AR	Miramichi	
330	000.00	CA/AR	Campbellton	
335	000.00	CA/AR	Edmundston	
403	000.00	CA/AR	Matane	
404	000.00	CA/AR	Rimouski	
405	000.00	CA/AR	Rivière-du-Loup	
406	000.00	CA/AR	Baie-Comeau	
408	999.99	CMA/RMR	Chicoutimi-Jonquière	CT/SR
410	000.00	CA/AR	Alma	
411	000.00	CA/AR	Dolbeau-Mistassini	
412	000.00	CA/AR	Sept-Îles	
421	999.99	CMA/RMR	Québec	CT/SR
428	000.00	CA/AR	Saint-Georges	
430	000.00	CA/AR	Thetford Mines	
433	999.99	CMA/RMR	Sherbrooke	CT/SR
437	000.00	CA/AR	Cowansville	
440	000.00	CA/AR	Victoriaville	
442	999.99	CMA/RMR	Trois-Rivières	CT/SR
444	000.00	CA/AR	Shawinigan	
446	000.00	CA/AR	La Tuque	
447	999.99	CA/AR	Drummondville	CT/SR
450	999.99	CA/AR	Granby	CT/SR
452	000.00	CA/AR	Saint-Hyacinthe	
454	000.00	CA/AR	Sorel-Tracy	
456	000.00	CA/AR	Joliette	
459	999.99	CA/AR	Saint-Jean-sur-Richelieu	CT/SR
462	999.99	CMA/RMR	Montréal	CT/SR
465	000.00	CA/AR	Salaberry-de-Valleyfield	
468	000.00	CA/AR	Lachute	
480	000.00	CA/AR	Val-d'Or	
481	000.00	CA/AR	Amos	
485	000.00	CA/AR	Rouyn-Noranda	

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs
501	000.00	CA/AR	Cornwall	
502	000.00	CA/AR	Hawkesbury	
505	999.99	CMA/RMR	Ottawa-Hull (Gatineau)	CT/SR
512	000.00	CA/AR	Brockville	
515	000.00	CA/AR	Pembroke	
516	000.00	CA/AR	Petawawa	
521	999.99	CMA/RMR	Kingston	CT/SR
522	999.99	CA/AR	Belleville	CT/SR
527	000.00	CA/AR	Cobourg	
528	000.00	CA/AR	Port Hope and Hope	
529	999.99	CA/AR	Peterborough	CT/SR
530	000.00	CA/AR	Kawartha Lakes (Lindsay)	
531	000.00	CA/AR	Centre Wellington	
533	000.00	CA/AR	Ingersoll	
532	999.99	CMA/RMR	Oshawa	CT/SR
535	999.99	CMA/RMR	Toronto	CT/SR
537	999.99	CMA/RMR	Hamilton	CT/SR
539	999.99	CMA/RMR	St Catharines-Niagara	CT/SR
541	999.99	CMA/RMR	Kitchener	CT/SR
543	999.99	CA/AR	Brantford	CT/SR
544	000.00	CA/AR	Woodstock	
546	000.00	CA/AR	Tillsonburg	
547	000.00	CA/AR	Norfolk (Simcoe)	
550	999.99	CA/AR	Guelph	CT/SR
553	000.00	CA/AR	Stratford	
555	999.99	CMA/RMR	London	CT/SR
556	000.00	CA/AR	Chatham-Kent	
557	000.00	CA/AR	Leamington	
559	999.99	CMA/RMR	Windsor	CT/SR
562	999.99	CA/AR	Sarnia (Sarnia-Clearwater)	CT/SR
566	000.00	CA/AR	Owen Sound	
567	000.00	CA/AR	Collingwood	
568	999.99	CA/AR	Barrie	CT/SR
569	000.00	CA/AR	Orillia	
571	000.00	CA/AR	Midland	
575	999.99	CA/AR	North Bay	CT/SR
580	999.99	CMA/RMR	Sudbury	CT/SR
582	000.00	CA/AR	Elliot Lake	
584	000.00	CA/AR	Haileybury	
586	000.00	CA/AR	Timmins	
590	999.99	CA/AR	Sault Ste. Marie	CT/SR
595	999.99	CMA/RMR	Thunder Bay	CT/SR
598	000.00	CA/AR	Kenora	
602	999.99	CMA/RMR	Winnipeg	CT/SR
607	000.00	CA/AR	Portage la Prairie	
610	000.00	CA/AR	Brandon	
640	000.00	CA/AR	Thompson	
705	999.99	CMA/RMR	Regina	CT/SR
710	000.00	CA/AR	Yorkton	
715	000.00	CA/AR	Moose Jaw	
720	000.00	CA/AR	Swift Current	
725	999.99	CMA/RMR	Saskatoon	CT/SR
735	000.00	CA/AR	North Battleford	
745	000.00	CA/AR	Prince Albert	
750	000.00	CA/AR	Estevan	

CMA/CA RMR/AR	CT SR	Type Type	Name Nom	Tracted Secteurs
805	999.99	CA/AR	Medicine Hat	CT/SR
806	000.00	CA/AR	Brooks	
810	999.99	CA/AR	Lethbridge	CT/SR
820	000.00	CA/AR	Okotoks	
825	999.99	CMA/RMR	Calgary	CT/SR
828	000.00	CA/AR	Cranmore	
830	999.99	CA/AR	Red Deer	CT/SR
833	000.00	CA/AR	Camrose	
835	999.99	CMA/RMR	Edmonton	CT/SR
840	000.00	CA/AR	Lloydminster	
845	000.00	CA/AR	Cold Lake (Grand Centre)	
850	000.00	CA/AR	Grande Prairie	
860	000.00	CA/AR	Wood Buffalo (Fort McMurray)	
865	000.00	CA/AR	Wetaskiwin	
905	000.00	CA/AR	Cranbrook	
913	000.00	CA/AR	Penticton	
915	999.99	CA/AR	Kelowna	CT/SR
918	000.00	CA/AR	Vernon	
920	000.00	CA/AR	Salmon Arm	
925	999.99	CA/AR	Kamloops	CT/SR
930	000.00	CA/AR	Chilliwack	
932	999.99	CMA/RMR	Abbotsford (Matsqui)	CT/SR
933	999.99	CMA/RMR	Vancouver	CT/SR
934	000.00	CA/AR	Squamish	
935	999.99	CMA/RMR	Victoria	CT/SR
937	000.00	CA/AR	Duncan	
938	999.99	CA/AR	Nanaimo	CT/SR
939	000.00	CA/AR	Parksville	
940	000.00	CA/AR	Port Alberni	
943	000.00	CA/AR	Courtenay	
944	000.00	CA/AR	Campbell River	
945	000.00	CA/AR	Powell River	
950	000.00	CA/AR	Williams Lake	
952	000.00	CA/AR	Quesnel	
955	000.00	CA/AR	Prince Rupert	
960	000.00	CA/AR	Kitimat	
965	000.00	CA/AR	Terrace	
970	999.99	CA/AR	Prince George	CT/SR
975	000.00	CA/AR	Dawson Creek	
977	000.00	CA/AR	Fort St. John	
990	000.00	CA/AR	Whitehorse	
995	000.00	CA/AR	Yellowknife	
999	999.99	CMA/CA unknown--RMR/AR inconnu		CT/SR?

Note: Former names (from 1991 or 1996 or 2001 census) shown in parentheses if different.

Nota: Les anciens noms (du recensement de 1991, 1996 ou de 2001) sont indiqués entre parenthèses s'ils ont changé.

APPENDIX F GEOGRAPHIC CODING FROM PARTIAL POSTAL CODES BASED ON PCCF

APPENDIX F1	Geographic coding from the first character of the postal code
APPENDIX F2	Geographic coding from the first two characters of the postal code
APPENDIX F3	Geographic coding from the first three characters of the postal code

APPENDIX F1 GEOGRAPHIC CODING FROM THE FIRST CHARACTER OF THE POSTAL CODE

Letter	Province/Territory Major Geographic Area (Canada Post)	Standard Abbreviation
A	Newfoundland and Labrador	NF, NL
B	Nova Scotia	NS
C	Prince Edward Island	PE
E	New Brunswick	NB
G H J	Québec	QC
G	Québec East	
H	Montréal Metro	
J	Québec West	
K L M N P	Ontario	ON
K	Eastern Ontario	
L	Central Ontario	
M	Toronto Metro	
N	Southwestern Ontario	
P	Northern Ontario	
R	Manitoba	MB
S	Saskatchewan	SK
T	Alberta	AB
V	British Columbia	BC
X	Northwest Territories	NT
X	Nunavut	NU
Y	Yukon	YK, YT

In the PCCF, some postal codes may be linked to a different province from their first character allocation. Those records are not mistakes; they reflect the reality of Canada Post sortation and delivery patterns.

APPENDIX F2 GEOGRAPHIC CODING FROM THE FIRST TWO CHARACTERS OF THE POSTAL CODE

FS	FSA12 - FIRST TWO CHARACTERS OF POSTAL CODE
NPC	NUMBER OF POSTAL CODES
CMA	MOST COMMON CENSUS METROPOLITAN AREA OR CENSUS AGGLOMERATION (CMA/CA)
PCMA	PERCENTAGE OF POSTAL CODES WITHIN THAT CMA/CA
PRCD	MOST COMMON CENSUS SUBDIVISION (CD)
PCD	PERCENTAGE OF POSTAL CODES WITHIN THAT CD
PRCDCSD	MOST COMMON CENSUS SUBDIVISION (CSD)
PCSD	PERCENTAGE OF POSTAL CODES WITHIN THAT CSD
AVLAT	AVERAGE LATITUDE IN DEGREES(2)+DECIMALS(6)
AVLONG	AVERAGE LONGITUDE IN DEGREES(3)+DECIMALS(6)
T	1=CMA/CA IS CENSUS TRACTED; 0=CMA/CA NOT TRACTED

GEOGRAPHIC CODING FROM FIRST TWO CHARACTERS OF THE POSTAL CODE

FS	NPC	CMA	PCMA	PRCD	PCD	PRDCSD	PCSD	AVLAT	AVLONG	T
NEWFOUNDLAND AND LABRADOR - TERRE-NEUVE ET LABRADOR										
A0	8720	000	91.6	1001	36.4	1010025	3.6	48692998	055088390	0
A1	14510	001	94.9	1001	96.5	1001519	44.2	47597789	052895286	1
A2	4619	015	42.8	1005	43.3	1005018	41.6	49270448	058618991	0
A8	1061	000	100.0	1005	98.3	1005004	75.2	49202405	057425012	0
NOVA SCOTIA - NOUVELLE ECOSSE										
B0	12350	000	79.2	1212	11.3	1207001	6.2	45076455	063718581	0
B1	15659	225	97.8	1217	97.8	1217030	96.8	46147758	060158701	0
B2	14528	205	33.2	1209	33.2	1209034	33.2	45323562	062612204	1
B3	11459	205	100.0	1209	100.0	1209034	100.0	44650437	063639261	1
B4	9495	000	48.1	1209	36.6	1209034	36.6	44937568	064147955	0
B5	1982	000	100.0	1202	98.4	1202006	78.6	43848198	066115568	0
B9	782	000	100.0	1215	96.4	1215002	67.1	45637082	061361888	0
PRINCE EDWARD ISLAND - ILE DU PRINCE-EDOUARD										
C0	3064	000	88.4	1103	38.4	1103051	3.5	46393913	063288804	0
C1	6715	105	69.0	1102	69.2	1102075	49.0	46294117	063324159	0
NEW BRUNSWICK - NOUVEAU BRUNSWICK										
E0	779	000	84.0	1305	14.1	1305022	6.5	46389014	066076066	0
E1	15877	305	59.5	1307	50.5	1307022	38.1	46522230	065014890	1
E2	13036	310	70.5	1301	49.8	1301006	46.9	45830833	065994531	1
E3	12573	320	51.4	1310	46.5	1310032	32.7	46438924	067076430	0
E4	19010	000	88.7	1307	39.2	1307016	7.9	46138331	064948817	0
E5	8840	000	62.2	1305	43.6	1302026	6.6	45360280	066341074	0
E6	3104	000	72.9	1310	96.3	1310036	10.1	45987063	067023061	0
E7	9362	000	79.1	1311	47.2	1313027	17.6	46739566	067807609	0
E8	6361	000	93.2	1315	59.2	1314017	10.2	47782720	065756752	0
E9	2026	000	100.0	1309	98.4	1309036	22.7	46969757	065532936	0
QUEBEC										
G0	33748	000	86.1	2419	5.3	2425005	1.5	47310886	069878275	0
G1	24214	421	100.0	2423	100.0	2423025	33.9	46819596	071258016	1
G2	6660	421	100.0	2423	100.0	2423025	41.3	46837120	071334689	1
G3	6385	421	62.3	2423	62.3	2423050	27.0	46896799	071422039	1
G4	7682	000	43.6	2497	36.0	2497010	32.2	49399082	066494830	0
G5	15513	000	37.2	2429	26.1	2429075	24.3	47570479	069452730	0
G6	18462	421	46.7	2424	24.2	2424020	21.5	46408126	071394919	1
G7	12025	408	85.5	2494	88.0	2494070	35.4	48207620	071152540	1
G8	19470	442	32.9	2437	32.9	2493040	22.3	47948976	072253309	1
G9	10906	444	58.6	2436	58.6	2436028	22.4	46593926	072669965	0
H0	26	462	80.8	2465	80.8	2465005	80.8	45596425	073754401	1
H1	18591	462	100.0	2466	100.0	2466025	66.2	45602237	073567214	1
H2	12312	462	100.0	2466	100.0	2466025	94.2	45531435	073593846	1
H3	19253	462	100.0	2466	100.0	2466025	79.5	45526882	073581040	1
H4	11889	462	100.0	2466	100.0	2466025	44.8	45497248	073647974	1
H5	184	462	100.0	2466	100.0	2466025	100.0	45505555	073563883	1
H7	17586	462	100.0	2465	100.0	2465005	100.0	45584462	073742239	1
H8	6619	462	100.0	2466	100.0	2466040	40.2	45452405	073720556	1
H9	11031	462	100.0	2466	100.0	2466095	17.3	45458899	073843107	1
J0	53471	000	80.5	2477	6.6	2477045	1.8	45911707	073909726	0
J1	13499	433	57.7	2443	57.3	2443025	31.4	45402097	071977030	1
J2	20960	450	28.0	2447	29.0	2454045	19.3	45543203	072799842	1
J3	19864	462	63.4	2457	35.7	2453052	16.1	45617648	073243552	1
J4	12772	462	100.0	2458	82.2	2458030	40.2	45520845	073471763	1
J5	10840	462	80.6	2460	49.7	2460028	20.8	45713608	073523125	1
J6	19207	462	64.9	2464	27.7	2464010	19.9	45584375	073732693	1
J7	21611	462	98.9	2473	27.5	2474005	10.4	45612533	073906771	1
J8	20248	505	62.1	2481	52.1	2481015	30.1	45663266	075170281	1
J9	14973	000	30.0	2481	22.8	2486033	16.1	47114840	077103037	0

ONTARIO

K0 23077 000 63.9 3506 13.6 3506008 13.6 44884429 076631417 0
 K1 20952 505 100.0 3506 99.9 3506008 99.9 45405662 075653963 1
 K2 14532 505 100.0 3506 100.0 3506008 100.0 45325412 075801349 1
 K4 4995 505 99.9 3506 78.4 3506008 78.4 45404421 075467527 1
 K6 7214 501 55.1 3501 56.8 3501012 54.1 44978275 075001277 0
 K7 15349 000 56.1 3510 41.3 3510010 41.2 44613422 076449034 0
 K8 9938 522 50.9 3512 51.7 3547064 32.9 44942336 077325422 1
 K9 9410 529 55.9 3515 56.3 3515014 50.5 44250562 078392667 1
 L0 19101 000 35.2 3543 34.2 3543064 11.0 43837075 079602011 0

L1 24599 532 60.9 3518 95.3 3518013 26.5 43889998 078896495 1
 L2 18189 539 100.0 3526 100.0 3526053 49.4 43117811 079164068 1
 L3 23930 535 60.6 3519 56.9 3519036 42.7 43759213 079355697 1
 L4 37369 535 80.7 3519 63.9 3519028 29.9 43952919 079547401 1
 L5 21016 535 100.0 3521 99.9 3521005 99.6 43578973 079683154 1
 L6 24763 535 100.0 3521 48.5 3521010 48.1 43640506 079683774 1
 L7 13570 537 56.4 3524 76.2 3524002 56.4 43527431 079817659 1
 L8 15006 537 100.0 3525 99.8 3525005 99.8 43234567 079817558 1
 L9 19055 537 37.0 3525 36.8 3525005 36.8 43854474 079835175 1

M1 21549 535 100.0 3520 100.0 3520005 100.0 43755928 079273864 1
 M2 7057 535 100.0 3520 100.0 3520005 100.0 43775313 079374016 1
 M3 6299 535 100.0 3520 100.0 3520005 100.0 43743713 079425542 1
 M4 13567 535 100.0 3520 100.0 3520005 100.0 43698456 079361357 1
 M5 15221 535 100.0 3520 100.0 3520005 100.0 43675710 079384617 1
 M6 14998 535 100.0 3520 100.0 3520005 100.0 43678295 079444237 1
 M7 7321 535 100.0 3520 99.9 3520005 99.9 43772760 079256491 1
 M8 4765 535 100.0 3520 100.0 3520005 100.0 43627375 079507944 1
 M9 11231 535 100.0 3520 100.0 3520005 100.0 43697411 079544313 1

N0 26984 000 70.5 3541 12.9 3536020 7.4 43330599 081236163 0
 N1 12358 550 47.9 3523 55.0 3523008 46.9 43416650 080208927 1
 N2 14488 541 91.6 3530 91.6 3530013 57.4 43512239 080595031 1
 N3 14116 543 38.6 3529 49.1 3529006 38.6 43207343 080284965 1
 N4 10680 000 27.8 3532 44.2 3532042 23.3 43568070 080797509 0
 N5 13846 555 71.8 3539 45.9 3539036 45.7 42979796 081130889 1
 N6 11679 555 100.0 3539 100.0 3539036 98.9 42965876 081264298 1
 N7 10003 562 45.3 3538 45.3 3538030 42.0 42919191 082131032 1
 N8 20606 559 81.6 3537 93.4 3537039 73.2 42305006 082903203 1
 N9 9387 559 87.6 3537 100.0 3537039 58.9 42226099 083007092 1

P0 14943 000 77.8 3556 12.3 3553005 7.7 47309726 082863230 0
 P1 6355 575 59.5 3548 59.5 3548044 58.4 45843666 079379444 1
 P2 4586 000 100.0 3548 61.6 3548055 61.4 46532787 079974989 0
 P3 7356 580 99.1 3553 99.1 3553005 99.1 46509799 080986910 1
 P4 3171 586 99.6 3556 99.8 3556027 99.6 48485322 081334694 0
 P5 2178 000 59.3 3557 41.0 3557041 40.7 47342945 082341557 0
 P6 4558 590 98.4 3557 100.0 3557061 97.0 46526814 084328802 1
 P7 8471 595 97.2 3558 100.0 3558004 92.1 48418849 089263932 1
 P8 1224 000 100.0 3560 100.0 3560027 71.2 49855947 092622560 0
 P9 2297 000 52.9 3559 52.2 3559012 50.3 49166390 093915089 0

MANITOBA

R0 27955 000 91.4 4615 9.5 4612047 2.7 50196632 098677222 0
 R1 3978 000 56.4 4613 57.7 4609029 37.3 50065044 097508266 0
 R2 14470 602 100.0 4611 95.7 4611040 95.7 49900951 097109966 1
 R3 13724 602 99.8 4611 98.0 4611040 98.0 49869041 097178703 1
 R4 685 602 89.1 4611 39.7 4613037 36.6 49933145 097326239 1
 R5 681 000 78.0 4602 100.0 4602044 36.1 49611033 096727890 0
 R6 1675 000 100.0 4603 100.0 4603053 49.0 49180672 098023385 0
 R7 7819 610 79.8 4607 82.3 4607062 79.0 50073414 099970886 0
 R8 1137 640 51.4 4622 52.0 4622026 51.4 55262655 099754019 0
 R9 1371 000 100.0 4621 100.0 4621045 82.1 53816538 101255834 0

SASKATCHEWAN

S0	45480	000	93.9	4706	8.7	4714077	0.7	51459590	105501095	0
S2	77	705	100.0	4706	100.0	4706055	93.5	50771863	104930221	1
S3	1739	710	95.9	4709	99.6	4709012	90.2	51210549	102459513	0
S4	15666	705	82.0	4706	82.2	4706027	80.6	50271632	104411088	1
S6	8186	745	50.2	4715	50.8	4707039	48.4	51820806	105645797	0
S7	13922	725	99.7	4711	99.3	4711066	95.9	52128091	106646292	1
S9	7472	720	45.6	4708	45.9	4708004	43.2	51839414	108347372	0

ALBERTA

T0	41400	000	87.7	4810	12.3	4813001	1.9	52625780	113307693	0
T1	19353	810	32.0	4802	48.3	4802012	32.0	50187681	112637785	1
T2	30159	825	99.8	4806	99.9	4806016	98.7	51009148	114051146	1
T3	15976	825	99.9	4806	99.9	4806016	91.8	51094669	114144681	1
T4	14087	000	35.3	4808	56.2	4808011	29.7	52255111	113746748	0
T5	30050	835	100.0	4811	100.0	4811061	99.8	53565419	113510532	1
T6	21179	835	100.0	4811	100.0	4811061	99.4	53503746	113488256	1
T7	10840	835	63.2	4811	68.7	4811034	34.8	53592056	114632026	1
T8	16099	835	59.2	4811	59.2	4819012	35.4	54283468	115512293	1
T9	15386	835	25.3	4811	37.4	4811016	18.6	54010457	112055117	1

BRITISH COLUMBIA - COLOMBIE-BRITANIQUE

V0	26977	000	83.5	5929	8.9	5929011	3.2	50581494	121419253	0
V1	37163	000	26.7	5935	23.3	5935010	19.3	50891711	119031397	0
V2	42064	970	19.1	5909	32.7	5953023	16.6	50679854	121922514	1
V3	36463	933	97.1	5915	97.1	5915004	49.1	49181802	122793984	1
V4	20037	933	83.2	5915	83.2	5915004	39.7	49184436	122453350	1
V5	20689	933	100.0	5915	100.0	5915022	57.8	49248451	123035856	1
V6	21510	933	100.0	5915	100.0	5915022	83.4	49249617	123129197	1
V7	13323	933	100.0	5915	100.0	5915015	31.8	49272881	123116292	1
V8	23709	935	66.0	5917	70.0	5917021	25.4	49851907	124722195	1
V9	35760	938	21.7	5925	35.5	5921007	18.4	49288128	124390847	1

NORTHWEST TERRITORIES OR NUNAVUT - TERRITORIES DU NORD-OUEST OU NUNAVUT

X0	1167	000	99.7	6106	57.5	6106016	24.1	63645330	113346345	0
X1	1003	995	99.7	6106	100.0	6106023	99.7	62451236	114385180	0

YUKON

Y0	317	000	98.1	6001	100.0	6001029	26.2	62232499	135620588	0
Y1	3461	990	99.9	6001	100.0	6001009	99.2	60724190	135072254	0

APPENDIX F3**GEOGRAPHIC CODING
FROM THE FIRST THREE CHARACTERS OF THE POSTAL CODE**

GEOGRAPHIC CODING FROM THE FIRST THREE CHARACTERS OF THE POSTAL CODE

FSA	FORWARD SORTATION AREA - FIRST THREE CHARACTERS OF POSTAL CODE
NPC	NUMBER OF POSTAL CODES
CMA	MOST COMMON CENSUS METROPOLITAN AREA OR CENSUS AGGLOMERATION (CMA/CA)
PCMA	PERCENTAGE OF POSTAL CODES WITHIN THAT CMA/CA
PRCD	MOST COMMON CENSUS SUBDIVISION (CD)
PCD	PERCENTAGE OF POSTAL CODES WITHIN THAT CD
PRDCSD	MOST COMMON CENSUS SUBDIVISION (CSD)
PCSD	PERCENTAGE OF POSTAL CODES WITHIN THAT CSD
AVLAT	AVERAGE LATITUDE IN DEGREES(2)+DECIMALS(6)
AVLONG	AVERAGE LONGITUDE IN DEGREES(3)+DECIMALS(6)
T	1=CMA/CA IS CENSUS TRACTED; 0=CMA/CA NOT TRACTED

APPENDIX H Health Regions and Health Districts

APPENDIX H1

Summary List of Health Regions, by Province and Type, Canada, December 2007

PR	Health Region Type	HRTYP	Number
Total			49
NF	Regional Integrated Health Authority	RIH	4
PE	County	CTY	3
NS	Health Zone	ZON	6
NB	Region	REG	7
QC	Région socio-sanitaire	RSS	18
ON	Local Health Integration Network	LHN	14
MB	Regional Health Authority	RHA	11
SK	Regional Health Authority	RHA	12
	Health Authority	HAU	1
AB	Regional Health Authority	RHA	2
	Health Region	HRE	4
	Health	HLT	3
BC	Health Service Delivery Area	HSD	16
	Regional Health Authority (roll-up)	RHA	5
YK	Territory	TER	1
NT	Territory	TER	1
NU	Territory	TER	1

The 16 Health Service Delivery Areas in BC roll up to 5 Regional Health Authorities, which are designated by the first digit of the Health Region code.

APPENDIX H2

Summary List of Health Districts by Type and Province, Canada, December 2007

PR	Health District Type	SUBTYP	Number
Total			149
NS	District Health Authority	DHA	9
QC	Centre local de services communautaires	CLS	174
ON	Public Health Unit (incl Toronto)	PHU	36
	Health Planning Area (Toronto only)	HPA	16
AB	Sub-regional health authority (by 2007 definitions)	SUB	70
BC	Local Health Area	LHA	89

For Version 5C of PCCF+, the health district codes for BC are not shown, nor are the Toronto Health Planning Areas. Ontario health districts (PHUs) are defined without reference to Ontario health region (LHN) boundaries. In all other provinces, health districts roll up to health regions.

**APPENDIX H3:
HEALTH REGIONS, CANADA, DECEMBER 2007
REGIONS SOCIO-SANITAIRES, CANADA, DÉCEMBRE 2007**

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
NEWFOUNDLAND / TERRE-NEUVE		
1011	EASTERN	RIH
1012	CENTRAL	RIH
1013	WESTERN	RIH
1014	LABRADOR-GRENFELL	RIH
PRINCE EDWARD ISLAND / ILE DU PRINCE-EDOUARD		
1101	KINGS	CTY
1102	QUEENS	CTY
1103	PRINCE	CTY
NOVA SCOTIA / NOUVELLE ECOSSE		
1201	BRIDGEWATER-YARMOUTH	ZON
1202	KENTVILLE	ZON
1203	TRURO-AMHERST	ZON
1204	NEW GLASGOW-ANTIGONISH	ZON
1205	CAPE BRETON	ZON
1206	HALIFAX	ZON
NEW BRUNSWICK / NOUVEAU-BRUNSWICK		
1301	MONCTON	REG
1302	SAINT JOHN	REG
1303	FREDERICTON	REG
1304	EDMUNDSTON	REG
1305	CAMPBELLTON	REG
1306	BATHURST	REG
1307	MIRAMICHI	REG
QUEBEC		
2401	BAS-SAINT-LAURENT	RSS
2402	SAGUENAY--LAC-SAINT-JEAN	RSS
2403	CAPITALE-NATIONALE	RSS
2404	MAURICIE ET CENTRE DU QUEBEC	RSS
2405	ESTRIE	RSS
2406	MONTRÉAL	RSS
2407	OUTAOUAIS	RSS
2408	ABITIBI-TÉMISCAMINGUE	RSS
2409	CÔTE-NORD	RSS
2410	NORD-DU-QUÉBEC	RSS
2411	GASPÉSIE--ÎLES-DE-LA-MADELEINE	RSS
2412	CHAUDIÈRE-APPALACHES	RSS
2413	LAVAL	RSS
2414	LANAUDIÈRE	RSS
2415	LAURENTIDES	RSS
2416	MONTÉRÉGIE	RSS
2417	NUNAVIK	RSS
2418	TERRES-CRIES-DE-LA-BAIE-JAME	RSS

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
ONTARIO		
3501	ERIE ST. CLAIR	LHN
3502	SOUTH WEST	LHN
3503	WATERLOO WELLINGTON	LHN
3504	HAMILTON NIAGARA HALDIMAND BRANT	LHN
3505	CENTRAL WEST	LHN
3506	MISSISSAUGA HALTON	LHN
3507	TORONTO	LHN
3508	CENTRAL	LHN
3509	CENTRAL EAST	LHN
3510	SOUTH EAST	LHN
3511	CHAMPLAIN	LHN
3512	NORTH SIMCOE MUSKOKA	LHN
3513	NORTH EAST	LHN
3514	NORTH WEST	LHN
MANITOBA		
4610	WINNIPEG	RHA
4615	BRANDON	RHA
4620	NORTH EASTMAN	RHA
4625	SOUTH EASTMAN	RHA
4630	INTERLAKE	RHA
4640	CENTRAL	RHA
4645	ASSINIBOINE	RHA
4660	PARKLAND	RHA
4670	NORMAN	RHA
4680	BURNTWOOD	RHA
4690	CHURCHILL	RHA
SASKATCHEWAN		
4701	SUN COUNTRY	RHA
4702	FIVE HILLS	RHA
4703	CYPRESS	RHA
4704	REGINA QU'APPELLE	RHA
4705	SUNRISE	RHA
4706	SASKATOON	RHA
4707	HEARTLAND	RHA
4708	KELSEY TRAIL	RHA
4709	PRINCE ALBERT PARKLAND	RHA
4710	PRAIRIE NORTH	RHA
4711	MAMAWETAN CHURCHILL RIVER	RHA
4712	KEEWATIN YATTHÉ	RHA
4713	ATHABASCA	HAU
ALBERTA		
481	CHINOOK	HRE
482	PALLISER	HRE
483	CALGARY	HRE
484	DAVID THOMPSON	RHA
485	EAST CENTRAL	HLT
486	CAPITAL	HLT
487	ASPEN	RHA
488	PEACE COUNTRY	HLT
489	NORTHERN LIGHTS	HRE

PRHR	HEALTH REGION / REGION SOCIO-SANITAIRE	HRTYP
BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE		
591	INTERIOR	RHA
5911	EAST KOOTENAY	HSD
5912	KOOTENAY-BOUNDARY	HSD
5913	OKANAGAN	HSD
5914	THOMPSON/CARIBOO	HSD
592	FRASER	RHA
5921	FRASER EAST	HSD
5922	FRASER NORTH	HSD
5923	FRASER SOUTH	HSD
593	VANCOUVER CENTRAL	RHA
5931	RICHMOND	HSD
5932	VANCOUVER	HSD
5933	NORTH SHORE/COAST GARIBALDI	HSD
594	VANCOUVER ISLAND	RHA
5941	SOUTH VANCOUVER ISLAND	HSD
5942	CENTRAL VANCOUVER ISLAND	HSD
5943	NORTH VANCOUVER ISLAND	HSD
595	NORTHERN	RHA
5951	NORTHWEST	HSD
5952	NORTHERN INTERIOR	HSD
5953	NORTHEAST	HSD
TERRITORIES / TERRITOIRES		
6001	YUKON	TER
6101	NORTHWEST	TER
6102	NUNAVUT	TER

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**APPENDIX H4:
HEALTH DISTRICTS, CANADA, DECEMBER 2007
DISTRICTS SOCIO-SANITAIRES, CANADA, DÉCEMBRE 2007**

PRHR	SUB NAME / NOM	SUBTYP
NOVA SCOTIA / NOUVELLE-ÉCOSSE		
12011	BRIDGEWATER	DHA
12012	YARMOUTH	DHA
12023	KENTVILLE	DHA
12034	TRURO	DHA
12035	AMHERST	DHA
12046	NEW GLASGOW	DHA
12047	ANTIGONISH	DHA
12058	CAPE BRETON	DHA
12059	HALIFAX	DHA
QUEBEC		
2401101	RIMOUSKI-NEIGETTE	CLS
2401102	LA MITIS	CLS
2401103	MATANE	CLS
2401105	LA MATAPEDIA	CLS
2401301	LES BASQUES	CLS
2401302	SAINT-ELEUTHERE	CLS
2401303	RIVIERE-DU-LOUP	CLS
2401304	KAMOURASKA	CLS
2401305	CABANO	CLS
2402101	FJORD	CLS
2402102	SAGUENAY	CLS
2402103	JONQUIERE	CLS
2402106	CHICOUTIMI	CLS
2402202	DOMAINE-DU-ROY	CLS
2402203	MARIA-CHAPDELAINE	CLS
2402204	LAC-SAINT-JEAN-EST	CLS
2403000	PORTNEUF	CLS
2403101	LAURENTIEN	CLS
2403102	SAINTE-FOY - SILLERY	CLS
2403201	QUEBEC-HAUTE-VILLE	CLS
2403202	QUEBEC-BASSE-VILLE	CLS
2403203	LIMOILOU-VANIER	CLS
2403204	DUBERGER-LES SAULES-LEBOURGNEUF	CLS
2403300	LORETTEVILLE - VAL-BELAIR	CLS
2403401	BEAUPORT	CLS
2403402	ORLEANS	CLS
2403500	CHARLESBOURG	CLS
2403701	CHARLEVOIX-EST	CLS
2403702	CHARLEVOIX-OUEST	CLS
2404401	HAUT-SAINT-AURICE	CLS
2404402	MEKINAC	CLS
2404403	CENTRE-DE-LA-AURICIE	CLS
2404404	MASKINONGE	CLS
2404405	TROIS-RIVIERES	CLS
2404406	DES CHENAUX	CLS
2404407	CAP-DE-LA-MADELEINE	CLS
2404501	NICOLET-YAMASKA	CLS
2404502	BECANCOUR	CLS
2404503	DRUMMOND	CLS
2404504	ARTHABASKA	CLS
2404505	DE L'ERABLE	CLS
2405101	GRANIT	CLS

2405102	ASBESTOS	CLS
2405103	HAUT-SAINT-FRANCOIS	CLS
2405104	VAL SAINT-FRANCOIS	CLS
2405105	COATICOOK	CLS
2405106	MEMPHREMAGOG	CLS
2405107	FLEURIMONT-LENNOXVILLE	CLS
2405108	SHERBROOKE	CLS
2406101	LAC SAINT-LOUIS	CLS
2406103	PIERREFONDS	CLS
2406104	DOLLARD-DES-ORMEAUX	CLS
2406105	LACHINE	CLS
2406201	POINTE-SAINT-CHARLES	CLS
2406202	VERDUN	CLS
2406204	SAINT-PAUL	CLS
2406206	LASALLE	CLS
2406301	RIVIERE-DES-PRAIRIES	CLS
2406302	POINTE-AUX-TREMBLES	CLS
2406303	MERCIER-EST	CLS
2406304	MERCIER-OUEST	CLS
2406305	HOCHELAGA-MAISONNEUVE	CLS
2406306	ROSEMONT	CLS
2406308	ANJOU	CLS
2406309	SAINT-LEONARD	CLS
2406401	COTE-DES-NEIGES	CLS
2406402	SNOWDON	CLS
2406403	COTE-SAINT-LUC	CLS
2406404	MONT-ROYAL	CLS
2406501	NOTRE-DAME DE GRACE - MONTREAL-OUEST	CLS
2406503	METRO	CLS
2406504	SAINT-LOUIS DU PARC	CLS
2406505	SAINT-HENRI	CLS
2406601	MONTREAL-NORD	CLS
2406603	SAINT-MICHEL	CLS
2406605	AHUNTSIC	CLS
2406606	BORDEAUX-CARTIERVILLE	CLS
2406608	SAINT-LAURENT	CLS
2406701	MONTREAL-CENTRE-SUD	CLS
2406702	PLATEAU MONT-ROYAL	CLS
2406704	PARC-EXTENSION	CLS
2406705	MONTREAL-CENTRE-VILLE	CLS
2406706	VILLERAY	CLS
2406707	PETITE PATRIE	CLS
2407201	HULL	CLS
2407202	AYLMER	CLS
2407300	GATINEAU	CLS
2407400	PONTIAC	CLS
2407500	LES COLLINES-DE-L'OUTAOUAIS	CLS
2407600	DES FORESTIERS	CLS
2407701	VALLEE-DE-LA-LIEVRE	CLS
2407702	PETITE-NATION	CLS
2408101	TEMISCAMING	CLS
2408102	VILLE-MARIE	CLS
2408103	ROUYN-NORANDA	CLS
2408104	ABITIBI-OUEST	CLS
2408105	ABITIBI	CLS
2408106	VALLEE-DE-L'OR	CLS
2409101	LES ESCOUMINS	CLS
2409102	FORESTVILLE	CLS
2409103	MANICOUAGAN	CLS
2409105	PORT-CARTIER	CLS

2409106	SEPT-ILES	CLS
2409107	CANIAPISCAU	CLS
2409109	MINGANIE	CLS
2409110	BASSE COTE-NORD	CLS
2409112	TERRITOIRE NASKAPI	CLS
2410101	CHIBOUGAMAU/CHAPAIS	CLS
2410102	LEBEL-SUR-QUEVILLON	CLS
2410103	MATAGAMI	CLS
2410104	BAIE-JAMES	CLS
2411201	BONAVENTURE	CLS
2411203	PABOK	CLS
2411204	GASPE	CLS
2411205	GRANDE-VALLEE	CLS
2411206	ILES-DE-LA-MADELEINE	CLS
2411207	MURDOCHVILLE	CLS
2411208	DENIS-RIVERIN	CLS
2411209	AVIGNON	CLS
2412101	LAC ETCHEMIN	CLS
2412102	LA NOUVELLE-BEAUCE	CLS
2412103	BEAUCE-SARTIGAN	CLS
2412104	ROBERT-CLICHE	CLS
2412105	L'AMIANTE	CLS
2412401	DESJARDINS	CLS
2412402	CHAUDIERE	CLS
2412403	BELLECHASSE	CLS
2412404	LOTBINIERE	CLS
2412702	L'ISLET	CLS
2412704	MONTMAGNY	CLS
2413801	DUVERNAY	CLS
2413803	CHOMEDEY	CLS
2413805	PONT-VIAU	CLS
2413807	SAINTE-ROSE-DE-LAVAL	CLS
2414201	D'AUTRAY	CLS
2414202	MATAWINIE	CLS
2414203	JOLIETTE	CLS
2414204	MONTCALM	CLS
2414205	LES MOULINS	CLS
2414206	L'ASSOMPTION	CLS
2415101	DEUX-MONTAGNES - MIRABEL	CLS
2415102	THERESE-DE-BLAINVILLE	CLS
2415103	ANTOINE-LABELLE	CLS
2415104	RIVIERE-DU-NORD - MIRABEL	CLS
2415105	LES PAYS-D'EN-HAUT	CLS
2415106	LES LAURENTIDES	CLS
2415107	ARGENTEUIL	CLS
2416001	VAUDREUIL-SOULANGES	CLS
2416002	HAUT-SAINT-LAURENT	CLS
2416003	VALLEYFIELD-BEAUHARNOIS	CLS
2416004	CHATEAUGUAY-MERCIER	CLS
2416005	LES JARDINS DE NAPIERVILLE	CLS
2416006	SAINT CONSTANT - LA PRAIRIE	CLS
2416007	BROSSARD - SAINT-LAMBERT	CLS
2416008	LONGUEUIL-OUEST	CLS
2416009	LONGUEUIL-EST	CLS
2416010	ST-HUBERT	CLS
2416011	LAJEMMERAIS	CLS
2416012	SAINT-JEAN-SUR-RICHELIEU - SAINT-LUC	CLS
2416013	SAINT-BRUNO - BELOEIL - SAINT-HILAIRE	CLS
2416014	CHAMBLY-CARIGNAN-MARIEVILLE	CLS
2416015	BAS RICHELIEU	CLS

2416016	LES MASKOUTAINS	CLS
2416017	COWANSVILLE-FARNHAM-BEDFORD	CLS
2416018	GRANBY-SHEFFORD-BROMONT	CLS
2416019	ACTON	CLS
2417101	BAIE D'HUDSON	CLS
2417102	UNGAVA	CLS
2418101	TERRITOIRE CRI	CLS

ONTARIO

3526	ALGOMA	PHU	
3527	BRANT	PHU	
3530	DURHAM	PHU	
3531	ELGIN-ST THOMAS	PHU	
3533	GREY BRUCE	PHU	
3534	HALDIMAND-NORFOLK	PHU	
3535	HALIBURTON-KAWARTHA-PINE RIDGE	PHU	
3536	HALTON	PHU	
3537	HAMILTON	PHU	
3538	HASTINGS-PRINCE EDWARD	PHU	
3539	HURON	PHU	
3540	CHATHAM-KENT	PHU	
3541	KINGSTON-FRONTENAC-LENNOX-ADDINGTON	PHU	
3542	LAMBTON	PHU	
3543	LEEDS-GRENVILLE-LANARK	PHU	
3544	MIDDLESEX-LONDON	PHU	
3546	NIAGARA	PHU	
3547	NORTH BAY - PARRY SOUND	PHU	
3549	NORTHWESTERN	PHU	
3551	OTTAWA	PHU	
3552	OXFORD	PHU	
3553	PEEL	PHU	
3554	PERTH	PHU	
3555	PETERBOROUGH	PHU	
3556	PORCUPINE	PHU	
3557	RENFREW	PHU	
3558	EASTERN ONTARIO	PHU	
3560	SIMCOE - MUSKOKA	PHU	
3561	SUDBURY	PHU	
3562	THUNDER BAY	PHU	
3563	TIMISKAMING	PHU	
3565	WATERLOO	PHU	
3566	WELLINGTON-DUFFERIN-GUELPH	PHU	
3568	WINDSOR-ESSEX	PHU	
3570	YORK	PHU	
3595	TORONTO	PHU	
3595A	TORONTO WEST	AREA 1A	HPA
3595B	TORONTO WEST	AREA 1B	HPA
3595C	TORONTO CENTRAL WEST	AREA 2A	HPA
3595D	TORONTO CENTRAL WEST	AREA 2B	HPA
3595E	TORONTO CENTRAL WEST	AREA 2C	HPA
3595F	TORONTO CENTRAL WEST	AREA 2D	HPA
3595G	TORONTO CENTRAL EAST	AREA 3A	HPA
3595H	TORONTO CENTRAL EAST	AREA 3B	HPA
3595I	TORONTO CENTRAL EAST	AREA 3C	HPA
3595J	TORONTO CENTRAL SOUTH	AREA 4A	HPA
3595K	TORONTO CENTRAL SOUTH	AREA 4B	HPA
3595L	TORONTO EAST	AREA 5A	HPA
3595M	TORONTO EAST	AREA 5B	HPA
3595N	TORONTO EAST	AREA 5C	HPA
3595O	TORONTO EAST	AREA 5D	HPA

ALBERTA

PRHRSUB	NAME / NOM	SUBTYP
480101	Crowsnest Pincher Creek	SUB
480102	Fort McLeod Cardston	SUB
480103	Lethbridge	SUB
480104	Picture Butte Raymond Milk River	SUB
480105	Vauxhall Taber	SUB
480201	Palliser North and Central	SUB
480202	Palliser West	SUB
480301	Calgary Northwest	SUB
480302	Calgary Beddington Heights	SUB
480303	Calgary Northeast	SUB
480304	Calgary University	SUB
480305	Calgary Charleswood	SUB
480306	Calgary Marlborough	SUB
480307	Calgary Shaganappi	SUB
480308	Calgary Bowness	SUB
480309	Calgary Scarboro	SUB
480310	Calgary Forest Lawn	SUB
480311	Calgary Lakeview	SUB
480312	Calgary Mount Royal	SUB
480313	Calgary Haysboro	SUB
480314	Calgary Bonavista	SUB
480315	Calgary South	SUB
480320	Banff-Canmore	SUB
480321	Didsbury-Strathmore	SUB
480322	Vulcan-Claresholm	SUB
480323	High River-Black Diamond	SUB
480401	Clearwater	SUB
480402	Brazeau	SUB
480403	Wetaskiwin-Hobbema	SUB
480404	Ponoka	SUB
480405	Lacombe	SUB
480406	Red Deer	SUB
480407	Olds	SUB
480408	Drumheller-Hanna	SUB
480409	Stettler-Consort	SUB
480501	Region 5 Northwest	SUB
480502	Regions 5 Northeast	SUB
480503	Region 5 Southeast	SUB
480504	Region 5 South Central	SUB
480505	Region5 Southwest	SUB
480601	St. Albert	SUB
480602	Edmonton Castle Downs	SUB
480603	Edmonton Woodcroft	SUB
480604	Edmonton Eastwood	SUB
480605	Edmonton North Central	SUB
480606	Edmonton North East	SUB
480607	Edmonton Bonnie Doon	SUB
480608	Edmonton West Jasper Place	SUB
480609	Edmonton Twin Brooks	SUB
480612	Edmonton Mill Woods	SUB
480613	Sherwood Park	SUB
480614	Strathcona County	SUB
480615	Thorsby	SUB
480616	Leduc Office	SUB
480617	Beaumont	SUB
480618	Westview	SUB

480619	Sturgeon County	SUB
480620	Fort Saskatchewan	SUB
480701	Aspen West	SUB
480702	Aspen Central	SUB
480703	Aspen North	SUB
480704	Aspen East	SUB
480801	Peace Northwest	SUB
480802	Peace Northeast	SUB
480803	Peace Southeast	SUB
480804	Peace Southwest	SUB
480901	High Level	SUB
480902	La Crete	SUB
480903	Northern Lights Northwest	SUB
480904	Fort McMurray	SUB

BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE

PRHRSUB	NAME / NOM	SUBTYP
5911001	FERNIE	LHA
5911002	CRANBROOK	LHA
5911003	KIMBERLEY	LHA
5911004	WINDERMERE	LHA
5911005	CRESTON	LHA
5911018	GOLDEN	LHA
5912006	KOOTENAY LAKE	LHA
5912007	NELSON	LHA
5912009	CASTLEGAR	LHA
5912010	ARROW LAKES	LHA
5912011	TRAIL	LHA
5912012	GRAND FORKS	LHA
5912013	KETTLE VALLEY	LHA
5913014	SOUTHERN OKANAGAN	LHA
5913015	PENTICTON	LHA
5913016	KEREMEOS	LHA
5913017	PRINCETON	LHA
5913021	ARMSTRONG-SPALLUMCHEEN	LHA
5913022	VERNON	LHA
5913023	CENTRAL OKANAGAN	LHA
5913077	SUMMERLAND	LHA
5913078	ENDERBY	LHA
5914019	REVELSTOKE	LHA
5914020	SALMON ARM	LHA
5914024	KAMLOOPS	LHA
5914025	100 MILE HOUSE	LHA
5914026	NORTH THOMPSON	LHA
5914027	CARIBOO-CHILCOTIN	LHA
5914029	LILLOOET	LHA
5914030	SOUTH CARIBOO	LHA
5914031	MERRITT	LHA
5921032	HOPE	LHA
5921033	CHILLIWACK	LHA
5921034	ABBOTSFORD	LHA
5921075	MISSION	LHA
5921076	AGASSIZ-HARRISON	LHA
5922040	NEW WESTMINSTER	LHA
5922041	BURNABY	LHA
5922042	MAPLE RIDGE	LHA
5922043	COQUITLAM	LHA
5923035	LANGLEY	LHA

5923037	DELTA	LHA
5923201	SURREY	LHA
5923202	SOUTH SURREY - WHITE ROCK	LHA
5931038	RICHMOND	LHA
5932161	CITY CENTRE VANCOUVER	LHA
5932162	DOWNTOWN EASTSIDE VANCOUVER	LHA
5932163	NORTHEAST VANCOUVER	LHA
5932164	WESTSIDE VANCOUVER	LHA
5932165	MIDTOWN VANCOUVER	LHA
5932166	SOUTH VANCOUVER	LHA
5933044	NORTH VANCOUVER	LHA
5933045	WEST VANCOUVER-BOWEN ISLAND	LHA
5933046	SUNSHINE COAST	LHA
5933047	POWELL RIVER	LHA
5933048	HOWE SOUND	LHA
5933049	BELLA COOLA VALLEY	LHA
5933083	CENTRAL COAST	LHA
5941061	GREATER VICTORIA	LHA
5941062	SOOKE	LHA
5941063	SAANICH	LHA
5941064	GULF ISLANDS	LHA
5942065	COWICHAN	LHA
5942066	LAKE COWICHAN	LHA
5942067	LADYSMITH	LHA
5942068	NANAIMO	LHA
5942069	QUALICUM	LHA
5942070	ALBERNI	LHA
5943071	COURTENAY	LHA
5943072	CAMPBELL RIVER	LHA
5943084	VANCOUVER ISLAND WEST	LHA
5943085	VANCOUVER ISLAND NORTH	LHA
5951050	QUEEN CHARLOTTE	LHA
5951051	SNOW COUNTRY	LHA
5951052	PRINCE RUPERT	LHA
5951053	UPPER SKEENA	LHA
5951054	SMITHERS	LHA
5951080	KITIMAT	LHA
5951087	STIKINE	LHA
5951088	TERRACE	LHA
5951092	NISGA'A	LHA
5951094	TELEGRAPH CREEK	LHA
5952055	BURNS LAKE	LHA
5952056	NECHAKO	LHA
5952057	PRINCE GEORGE	LHA
5952028	QUESNEL	LHA
5953059	PEACE RIVER SOUTH	LHA
5953060	PEACE RIVER NORTH	LHA
5953081	FORT NELSON	LHA

FILE=SUBNAM07L.CAN + THDIST2.COD

APPENDIX J Census divisions, 2006

The numeric code and corresponding census division name, including descriptive names for otherwise unnamed CDs.

PRCD	TYP	CDname		
1001	CDR	Avalon Peninsula	2416	MRC Charlevoix
1002	CDR	Burin Peninsula	2417	MRC L'Islet
1003	CDR	South Coast	2418	MRC Montmagny
1004	CDR	Stephenville	2419	MRC Bellechasse
1005	CDR	Corner Brook	2420	MRC L'Île-d'Orléans
1006	CDR	Central Newfoundland	2421	MRC La Côte-de-Beaupré
1007	CDR	Bonavista Bay	2422	MRC La Jacques-Cartier
1008	CDR	Notre Dame Bay	2423	TÉ Québec
1009	CDR	Northern Peninsula	2425	TÉ Lévis
1010	CDR	Central-Southern Labrador	2426	MRC La Nouvelle-Beauce
1011	CDR	Nunastivut	2427	MRC Robert-Cliche
			2428	MRC Les Etchemins
			2429	MRC Beauce-Sartigan
1101	CTY	Kings	2430	MRC Le Granit
1102	CTY	Queens	2431	MRC L'Amiante
1103	CTY	Prince	2432	MRC L'Érable
			2433	MRC Lotbinière
1201	CTY	Shelburne	2434	MRC Portneuf
1202	CTY	Yarmouth	2435	MRC Mékinac
1203	CTY	Digby	2436	TÉ Shawingigan
1204	CTY	Queens	2437	CDR Francheville
1205	CTY	Annapolis	2438	MRC Bécancour
1206	CTY	Lunenburg	2439	MRC Arthabaska
1207	CTY	Kings	2440	MRC Asbestos
1208	CTY	Hants	2441	MRC Le Haut-Saint-François
1209	CTY	Halifax	2442	MRC Le Val-Saint-François
1210	CTY	Colchester	2443	TÉ Sherbrooke
1211	CTY	Cumberland	2444	MRC Coaticook
1212	CTY	Pictou	2445	MRC Memphrémagog
1213	CTY	Guysborough	2446	MRC Brome-Missisquoi
1214	CTY	Antigonish	2447	MRC La Haute-Yamaska
1215	CTY	Inverness	2448	MRC Acton
1216	CTY	Richmond	2449	MRC Drummond
1217	CTY	Cape Breton	2450	MRC Nicolet-Yamaska
1218	CTY	Victoria	2451	MRC Maskinongé
			2452	MRC D'Autray
1301	CT	Saint John	2453	MRC Le Bas-Richelieu
1302	CT	Charlotte	2454	MRC Les Maskoutains
1303	CT	Sunbury	2455	MRC Rouville
1304	CT	Queens	2456	MRC Le Haut-Richelieu
1305	CT	Kings	2457	MRC La Vallée-du-Richelieu
1306	CT	Albert	2458	TÉ Longueuil
1307	CT	Westmorland	2459	MRC Lajemmerais
1308	CT	Kent	2460	MRC L'Assomption
1309	CT	Northumberland	2461	MRC Joliette
1310	CT	York	2462	MRC Matawinie
1311	CT	Carleton	2463	MRC Montcalm
1312	CT	Victoria	2464	MRC Les Moulins
1313	CT	Madawaska	2465	TÉ Laval
1314	CT	Restigouche	2466	TÉ Montréal
1315	CT	Gloucester	2467	MRC Roussillon
			2468	MRC Les Jardins-de-Napierville
2401	TÉ	Les Îles-de-la-Madeleine	2469	MRC Le Haut-Saint-Laurent
2402	MRC	Le Rocher-Percé	2470	MRC Beauharnois-Salaberry
2403	MRC	La Côte-de-Gaspé	2471	MRC Vaudreuil-Soulanges
2404	MRC	La Haute-Gaspésie	2472	MRC Deux-Montagnes
2405	MRC	Bonaventure	2473	MRC Thérèse-De Blainville
2406	MRC	Avignon	2474	TÉ Mirabel
2407	MRC	La Matapédia	2475	MRC La Rivière-du-Nord
2408	MRC	Matane	2476	MRC Argenteuil
2409	MRC	La Mitis	2477	MRC Les Pays-d'en-Haut
2410	MRC	Rimouski-Neigette	2478	MRC Les Laurentides
2411	MRC	Les Basques	2479	MRC Antoine-Labelle
2412	MRC	Rivière-du-Loup	2480	MRC Papineau
2413	MRC	Témiscouata	2481	TÉ Gatineau
2414	MRC	Kamouraska	2482	MRC Les Collines-de-l'Outaouais
2415	MRC	Charlevoix-Est	2483	MRC La Vallée-de-la-Gatineau

2484	MRC	Pontiac	4605	CDR	Turtle Mountain
2485	MRC	Témiscamingue	4606	CDR	Wallace
2486	TÉ	Rouyn-Noranda	4607	CDR	Brandon
2487	MRC	Abitibi-Ouest	4608	CDR	Swift Current
2488	MRC	Abitibi	4609	CDR	Portage la Prairie
2489	MRC	Vallée-de-l'Or	4610	CDR	Macdonald-Cartier
2490	TÉ	La Tuque	4611	CDR	Winnipeg
2491	MRC	Le Domaine-du-Roy	4612	CDR	Springfield-Broken Head
2492	MRC	Maria-Chapdelaine	4613	CDR	St Andrews
2493	MRC	Lac-Saint-Jean-Est	4614	CDR	Rookwood-Woodlands
2494	CDR	Le Saguenay-et-son-Fjord	4615	CDR	Langford-Minto
2495	MRC	La Haute-Côte-Nord	4616	CDR	Lake of the Prairies
2496	MRC	Manicouagan	4617	CDR	Dauphin
2497	CDR	Sept-Rivières--Caniapiscau	4618	CDR	Interlake South-Gimli
2498	CDR	Minganie--Basse-Côte-Nord	4619	CDR	Lake Winnipeg-Winnipegosis
2499	CDR	Nord-du-Québec	4620	CDR	Swan River
			4621	CDR	Moose Lake
			4622	CDR	Thompson
			4623	CDR	Hudson Bay
3501	UC	Stormont, Dundas and Glengarry	4701	CDR	Estevan
3502	UC	Prescott and Russell	4702	CDR	Weyburn
3506	CDR	Ottawa	4703	CDR	Lake of the Rivers
3507	UC	Leeds and Grenville	4704	CDR	Maple Creek
3509	CTY	Lanark	4705	CDR	Melville
3510	MB	Frontenac	4706	CDR	Regina
3511	CTY	Lennox and Addington	4707	CDR	Moose Jaw
3512	CTY	Hastings	4708	CDR	Swift Current
3513	CDR	Prince Edward	4709	CDR	Yorkton
3514	CTY	Northumberland	4710	CDR	Big Quill-Foam Lake-Kutawa
3515	CTY	Peterborough	4711	CDR	Saskatoon
3516	CDR	Kawartha Lakes	4712	CDR	Battleford-Biggar-Vanscoy
3518	RM	Durham	4713	CDR	Kindersley-Unity
3519	RM	York	4714	CDR	Star City-Nipawin-Hudson Bay
3520	CDR	Toronto	4715	CDR	Prince Albert
3521	RM	Peel	4716	CDR	North Battleford
3522	CTY	Dufferin	4717	CDR	Lloydminster-Meadow Lake
3523	CTY	Wellington	4718	CDR	Northern Saskatchewan
3524	RM	Halton			
3525	CDR	Hamilton	4801	CDR	Medicine Hat
3526	RM	Niagara	4802	CDR	Lethbridge
3528	CDR	Haldimand-Norfolk	4803	CDR	Southwest (Cardston-Willow/Pincher)
3529	CDR	Brant	4804	CDR	Hanna-Oyen-Consort
3530	RM	Waterloo	4805	CDR	Drumheller
3531	CTY	Perth	4806	CDR	Calgary
3532	CTY	Oxford	4807	CDR	Stettler-Wainwright
3534	CTY	Elgin	4808	CDR	Red Deer
3536	CDR	Chatham-Kent	4809	CDR	Rocky Mountain House
3537	CTY	Essex	4810	CDR	Camrose-Vermillion River-Lloydminster
3538	CTY	Lambton	4811	CDR	Edmonton
3539	CTY	Middlesex	4812	CDR	Cold Lake
3540	CTY	Huron	4813	CDR	Woodlands
3541	CTY	Bruce	4814	CDR	Yellowhead
3542	CTY	Grey	4815	CDR	Jasper-Banff
3543	CTY	Simcoe	4816	CDR	Wood Buffalo
3544	DM	Muskoka	4817	CDR	Peace River
3546	CTY	Haliburton	4818	CDR	Greenview
3547	CTY	Renfrew	4819	CDR	Grande Prairie
3548	DIS	Nipissing			
3549	DIS	Parry Sound	5901	RD	East Kootenay
3551	DIS	Manitoulin	5903	RD	Central Kootenay
3552	DIS	Sudbury	5905	RD	Kootenay Boundary
3553	CDR	Greater Sudbury / Grand Sudbury	5907	RD	Okanagan-Similkameen
3554	DIS	Timiskaming	5909	RD	Fraser Valley
3556	DIS	Cochrane	5915	RD	Greater Vancouver
3557	DIS	Algoma	5917	RD	Capital
3558	DIS	Thunder Bay	5919	RD	Cowichan Valley
3559	DIS	Rainy River	5921	RD	Nanaimo
3560	DIS	Kenora	5923	RD	Alberni-Clayoquot
			5925	RD	Comox-Strathcona
			5927	RD	Powell River
4601	CDR	Lac du Bonnet-Alexander			
4602	CDR	Hanover			
4603	CDR	Stanley			
4604	CDR	Lorne-Pembina			

5929 RD	Sunshine Coast	5957 REG	Stikine
5931 RD	Squamish-Lillooet	5959 RD	Northern Rockies
5933 RD	Thompson-Nicola		
5935 RD	Central Okanagan	6001 TER	Yukon
5937 RD	North Okanagan		
5939 RD	Columbia-Shuswap	6106 REG	Fort Smith
5941 RD	Cariboo	6107 REG	Inuvik
5943 RD	Mount Waddington		
5945 RD	Central Coast	6204 REG	Baffin
5947 RD	Skeena-Queen Charlotte	6205 REG	Keewatin
5949 RD	Kitimat-Stikine	6208 REG	Kitikmeot
5951 RD	Bulkley-Nechako		
5953 RD	Fraser-Fort George		
5955 RD	Peace River		

Census Division Type (CDtype)**Genre de la division de recensement (CDgenre)****Type/Genre**

CDR	Census Division / Division de recensement
CT	County / Comté
CTY	County
DIS	District
DM	District Municipality
MB	Management Board
MRC	Municipalité régionale de comté
RD	Regional District
REG	Region
RM	Regional Municipality
TÉ	Territoire équivalent
TER	Territory
UC	United Counties

APPENDIX K Economic regions**PRER ERNAME**

1010 Avalon Peninsula
 1020 South Coast - Burin Peninsula
 1030 West Coast - Northern Peninsula - Labrador
 1040 Notre Dame - Central Bonavista Bay

1110 Prince Edward Island

1210 Cape Breton
 1220 North Shore
 1230 Annapolis Valley
 1240 Southern
 1250 Halifax

1310 Campbellton - Miramichi
 1320 Moncton - Richibucto
 1330 Saint John - St. Stephen
 1340 Fredericton - Oromocto
 1350 Edmundston - Woodstock

2410 Gaspésie - Îles-de-la-Madeleine
 2415 Bas-Saint-Laurent
 2420 Capitale-Nationale
 2425 Chaudière - Appalaches
 2430 Estrie
 2433 Centre-du-Québec
 2435 Montérégie
 2440 Montréal
 2445 Laval
 2450 Lanaudière
 2455 Laurentides
 2460 Outaouais
 2465 Abitibi - Témiscamingue
 2470 Mauricie
 2475 Saguenay - Lac-Saint-Jean
 2480 Côte-Nord
 2490 Nord-du-Québec

3510 Ottawa
 3515 Kingston - Pembroke
 3520 Muskoka - Kawartha
 3530 Toronto
 3540 Kitchener - Waterloo - Barrie
 3550 Hamilton - Niagara Peninsula
 3560 London

PRER ERNAME

3570 Windsor - Sarnia
 3580 Stratford - Bruce Peninsula
 3590 Northeast
 3595 Northwest

4610 Southeast
 4620 South Central
 4630 Southwest
 4640 North Central
 4650 Winnipeg
 4660 Interlake
 4670 Parklands
 4680 North

4710 Regina - Moose Mountain
 4720 Swift Current - Moose Jaw
 4730 Saskatoon - Biggar
 4740 Yorkton - Melville
 4750 Prince Albert
 4760 Northern

4810 Lethbridge - Medicine Hat
 4820 Camrose - Drumheller
 4830 Calgary
 4840 Banff - Jasper - Rocky Mountain House
 4850 Red Deer
 4860 Edmonton
 4870 Athabasca - Grande Prairie - Peace River
 4880 Wood Buffalo - Cold Lake

5910 Vancouver Island and Coast
 5920 Lower Mainland - Southwest
 5930 Thompson - Okanagan
 5940 Kootenay
 5950 Cariboo
 5960 North Coast
 5970 Nechako
 5980 Northeast

6010 Yukon

6110 Northwest Territories

6210 Nunavut

APPENDIX L Census agricultural regions, 2006

including unofficial descriptive names for otherwise unnamed regions

PR	AR	ARNAME	PR	AR	ARNAME
10	01	Southeastern	47	1A	Estevan
10	02	Central	47	1B	Elcapo-Moosomin
10	03	Western and Labrador	47	2A	Weyburn
11	01	Eastern	47	2B	Regina-Moose Jaw
11	02	Central	47	3P	Gravelbourg-Enfield (3AN)
11	03	Western	47	3Q	Lake of the Rivers-Laurier-Hart Butte (3AS)
12	01	Southwestern	47	3R	Swift Current (3BN)
12	02	Annapolis Valley	47	3S	Grassy Creek (3BS)
12	03	Central	47	4A	Maple Creek-White Valley
12	04	Eastern	47	4B	Gull Lake-Happyland
12	05	Cape Breton	47	5A	Yorkton
13	01	Northwestern - Nord-Ouest	47	5B	Cote-Good Lake-Preeceville
13	02	Southwestern - Sud-Ouest	47	6A	Lumsden
13	03	Southeastern - Sud-Est	47	6B	Saskatoon
13	04	Northeastern - Nord-Est	47	7A	Kindersley-St Andrews
24	01	Bas-Saint-Laurent	47	7B	Biggar-Round Valley
24	02	Saguenay--Lac-Saint-Jean--Côte-Nord	47	8A	Star City-Nipawin-Hudson Bay
24	03	Québec	47	8B	Humbolt
24	04	Mauricie	47	9A	Prince Albert-North Battleford
24	05	Estrie	47	9B	Britannia-Meadow Lake-Battle River
24	06	Montréal--Laval	47	00	Northern Saskatchewan
24	07	Lanaudière	48	01	Medicine Hat-Hanna
24	08	Outaouais	48	02	Lethbridge-Drumheller
24	09	Laurentides	48	03	Calgary-Foothills
24	10	Abitibi-Témiscamingue--Nord-du-Québec	48	4A	Stettler-Wainwright
24	11	Gaspésie--Îles-de-la-Madeleine	48	4B	Camrose-Vermillion River-Lloydminster
24	12	Chaudière-Appalaches	48	05	Edmonton-Red Deer-Rocky Mountain House
24	13	Montréal	48	06	Yellowhead-Woodlands-Cold Lake-Wood Buffalo
24	14	Centre-du-Québec	48	07	Peace River-Grande Prairie
35	01	Southern Ontario - Sud de l'Ontario	59	01	Vancouver Island-Coast
35	02	Western Ontario - Ouest de l'Ontario	59	02	Lower Mainland-Southwest
35	03	Central Ontario - Centre de l'Ontario	59	03	Thompson-Okanagan
35	04	Eastern Ontario - Est de l'Ontario	59	04	Kootenay
35	05	Northern Ontario - Nord de l'Ontario	59	05	Cariboo
46	01	Southwestern	59	06	North Coast
46	02	Brandon-Wallace	59	07	Nechako
46	03	Neepawa-Minnedosa-Shoal Lake	59	08	Peace River
46	04	Lake of the Prairies	60	00	Yukon
46	05	Swan River	61	00	Northwest Territories
46	06	Dauphin	62	00	Nunavut
46	07	Centre-West			
46	08	Centre-South			
46	09	Centre-East			
46	10	Southeastern			
46	11	Centre-North			
46	12	Northern			

APPENDIX M Canada Post Air Stage Offices

What Is An Air Stage Office?

According to Canada Post, "An Air Stage Office is a Post Office to or from which all mail must be airlifted for more than six (6) months of every year as a viable surface transportation alternative is not available. These offices are generally confined to remote or isolated communities. An office designated an Air Stage Office is deemed to be Air Stage for the whole year." <http://www.canadapost.ca/tools/pg/manual/PGairstage-e.asp> (Last updated: 2007-09-17)

APPENDICE M Les Bureaux du Service aérien omnibus des Postes Canada

De quoi s'agissent les Bureaux du Service aérien omnibus?

D'après Postes Canada, « Il s'agit d'un bureau de poste à partir ou à destination duquel tout le courrier doit être transporté par avion parce qu'il n'y a pas de moyen de transport par voie de terre viable durant au moins six mois par année. Ce type de bureau est généralement situé dans les régions éloignées ou isolées. Tout bureau de poste désigné bureau du Service aérien omnibus le demeure pendant toute l'année. »

<http://www.postescanada.ca/tools/pg/manual/PGairstage-f.asp> (Mise à jour : 2007-09-17)

Table 1: List of Air Stage Offices

Tableau 1 : Liste des bureaux du Service aérien omnibus

CPCOMM	PR	FSA	LDU			
AHOUSAT	BC	V0R	1A0	GOD'S RIVER	MB	R0B 0N0
AKLAVIK	NT	X0E	0A0	GRANVILLE LAKE	MB	R0B 0P0
AKULIVIK	QC	J0M	1V0	GRISE FIORD	NU	X0A 0J0
ANGLING LAKE	ON	P0V	1B0	HALL BEACH	NU	X0A 0K0
ARCTIC BAY	NU	X0A	0A0	HARRINGTON HARBOUR	QC	G0G 1N0
ATTAWAPISKAT	ON	P0L	1A0	HARTLEY BAY	BC	V0V 1A0
ARVIAT	NU	X0C	0E0	HOLMAN	NU	X0E 0S0
AUPALUK	QC	J0M	1X0	HOPEDALE	NL	A0P 1G0
BAKER LAKE	NU	X0C	0A0	IGLOOLIK	NU	X0A 0L0
BAY CHIMO	NU	X0B	2A0	INUKJUAK	QC	J0M 1M0
BEARSKIN LAKE	ON	P0V	1E0	IQUALUIT	NU	X0A 0H0
BERENS RIVER	MB	R0B	0A0	IQUALUIT	nu	X0A 1H0
BIG TROUT LAKE	ON	P0V	1G0	ISLAND LAKE	MB	R0B 0T0
BLACK LAKE	SK	S0J	0H0	IVUJIVIK	QC	J0M 1H0
BLACK TICKLE	NL	A0K	1N0	KANGIQSUALUJJUAQ	QC	J0M 1N0
BLIND CHANNEL	BC	V0P	1B0	KANGISUJUAQ	QC	J0M 1K0
BLOODVEIN	MB	R0C	0J0	KANGIRSUQ	QC	J0M 1A0
BRADORE BAY	QC	G0G	1E0	KASABONIKA	ON	P0V 1Y0
BROCHET	MB	R0B	0B0	KASHECHEWAN	ON	P0L 1S0
CAMBRIDGE BAY	NU	X0B	0C0	KEEWAYWIN	ON	P0V 3G0
CAPE DORSET	NU	X0A	0C0	KÉGASKA	QC	G0G 1S0
CAT LAKE	ON	P0V	1J0	KIMMIRUT	NU	X0A 0N0
CHESTERFIELD INLET	NU	X0C	0B0	KINGCOME INLET	BC	V0N 2B0
CHEVERY	QC	G0G	1G0	KINGFISHER LAKE	ON	P0V 1Z0
CLYDE RIVER	NU	X0A	0E0	KITKATLA	BC	V0V 1C0
COLVILLE LAKE	NT	X0E	1L0	KLEMTU	BC	V0T 1L0
CORAL HARBOUR	NU	X0C	0C0	KUGAARUK	NU	X0B 1K0
DAWSON'S LANDING	BC	V0N	1M0	KUGLUKTUK	NU	X0B 0E0
DEER LAKE	ON	P0V	1N0	KUUJJUAQ	QC	J0M 1C0
DÉLINE	NT	X0E	0G0	KUUJJUARAPIK	QC	J0M 1G0
EABAMET LAKE	ON	P0T	1L0	KYUQUOT	BC	V0P 1J0
EUREKA	NU	X0A	0G0	LA TABATIÈRE	QC	G0G 1T0
FOND-DU-LAC	SK	S0J	0W0	LAC BROCHET	MB	R0B 2E0
FORT ALBANY	ON	P0L	1H0	LAC SEUL	ON	P0V 2A0
FORT CHIPEWYAN	AB	T0P	1B0	LANSDOWNE HOUSE	ON	P0T 1Z0
FORT GOOD HOPE	NT	X0E	0H0	LAX KW'ALAAMS	BC	V0V 1H0
FORT SEVERN	ON	P0V	1W0	LITTLE GRAND RAPIDS	MB	R0B 0V0
FOX LAKE	AB	T0H	1R0	LUTSELK'E	NT	X0E 1A0
GARDEN HILL	MB	R0B	0T0	MAKKOVIK	NL	A0P 1J0
GARDEN RIVER	AB	T0H	4G0	MINSTREL ISLAND	BC	V0P 1L0
GETHSÉMANI	QC	G0G	1M0	MUSKRAT DAM	ON	P0V 3B0
GJOA HAVEN	NU	X0B	1J0	MUTTON BAY	QC	G0G 2C0
GOD'S LAKE NARROWS	MB	R0B	0M0	NAIN	NL	A0P 1L0

NANISIVIK	NU	X0A	0X0	SANDY LAKE	ON	P0V	1V0
NATUASHIS	NL	A0P	1A0	SANIKILUAQ	NU	X0A	0W0
NEGGINAN	MB	R0B	0Z0	SHAMATTAWA	MB	R0B	1K0
NORMAN WELLS	NT	X0E	0V0	SIMOOM SOUND	BC	V0P	1S0
NORTH SPIRIT LAKE	ON	P0V	2G0	SOUTH INDIAN LAKE	MB	R0B	1N0
OCEAN FALLS	BC	V0T	1P0	ST-AUGUSTIN-SAGUENAY	QC	G0G	2R0
OGOKI	ON	P0T	2L0	ST THERESA POINT	MB	R0B	1J0
OLD CROW	YT	Y0B	1N0	STEVENSON ISLAND	MB	R0B	2H0
OONA RIVER	BC	V0V	1E0	STONY RAPIDS	SK	S0J	2R0
OWEEKENO	BC	V0N	3S0	STUART ISLAND	BC	V0P	1V0
OXFORD HOUSE	MB	R0B	1C0	SULLIVAN BAY	BC	V0N	3H0
PANGNIRTUNG	NU	X0A	0R0	SUMMER BEAVER	ON	P0T	3B0
PAUINGASSI	MB	R0B	2G0	SURGE NARROWS	BC	V0P	1W0
PAULATUK	NT	X0E	1N0	TADOULE LAKE	MB	R0B	2C0
PEAWANUCK	ON	P0L	2H0	TALOYOAK	NU	X0B	1B0
PIKANGIKUM	ON	P0V	2L0	TASIUJAQ	QC	J0M	1T0
POND INLET	NU	X0A	0S0	TÊTE-À-LA-BALEINE	QC	G0G	2W0
POPLAR HILL	ON	P0V	3E0	TROUT LAKE	NT	X0E	1Z0
POPLAR RIVER	MB	R0B	0Z0	TUKTOYAKTUK	NT	X0E	1C0
PORT-MENIER	QC	G0G	2Y0	TULITA	NT	X0E	0K0
POSTVILLE	NL	A0P	1N0	UMIUJAQ	QC	J0M	1Y0
PORT NEVILLE	BC	V0P	1M0	URANIUM CITY	SK	S0J	2W0
PUKATAWAGAN	MB	R0B	1G0	WAASAGOMACH	MB	R0B	1Z0
PUVIRNITUQ	QC	J0M	1P0	WARE	BC	V0J	3B0
QIKIQTARJUAQ	NU	X0A	0B0	WEAGAMOW LAKE	ON	P0V	2Y0
QUAQTAQ	QC	J0M	1J0	WEBEQUIE	ON	P0T	3A0
RAE LAKES	NT	X0E	1R0	WEKWETI	NT	X0E	1W0
RANKIN INLET	NU	X0C	0G0	WHA TI	NT	X0E	1P0
RED SUCKER LAKE	MB	R0B	1H0	WHALE COVE	NU	X0C	0J0
REFUGE COVE	BC	V0P	1P0	WILLIAMS HARBOUR	NL	A0K	5V0
REPULSE BAY	NU	X0C	0H0	WOLLASTON LAKE	SK	S0J	3C0
RESOLUTE	NU	X0A	0V0	WUNNUMMIN LAKE	ON	P0V	2Z0
RIGOLET	NL	A0P	1P0	YORK LANDING	MB	R0B	2B0
SACHIGO LAKE	ON	P0V	2P0				
SACHS HARBOUR	NU	X0E	0Z0				
SALLUIT	QC	J0M	1S0				

APPENDIX N

SUPPLEMENTARY PROGRAM DIST5X.SAS

DIST5X . SAS is a supplementary program for calculating distances from each record on one file to the closest of many records on a second file.

Use of this program requires that you have already generated two output files through previous use of PCCF+ Version 5x. It first reads in both files. Then, for each record in the first file, it calculates the distance to each record in the second file. It retains only the minimum distance, plus the ID of the record in the second file for which the minimum distance was found.

By default, the program assumes that you have previously defined two categories of records in the second file (for example, specialist and non-specialist physicians, or general hospitals and children's hospitals). You can modify the program to work with additional or fewer categories, defined and coded however you want.

Basic familiarity with SAS programming is required for use of this supplementary program.

APPENDIX O

SUPPLEMENTARY PROGRAM EXPLODE2.SAS

EXPLODE2 . SAS is a supplementary program to read in a data file containing counts for postal codes, and transform it into a file containing individual records, including a unique ID, for each occurrence of those postal codes. This is necessary for the data to be coded using PCCF+.

Basic familiarity with SAS programming is required for use of this supplementary program. A sample data file for testing this program is provided (GROUPED . TXT).

APPENDIX P

SUPPLEMENTARY PROGRAM FIXPCBAD.SAS

Appendix O is a supplementary program for fixing common errors in Canadian postal codes. It is intended for preprocessing of files prior to coding using PCCF+. A sample data file for testing this program is provided (PCBAD . TXT).