Importing CHASS Census Data into ArcGIS

The Canadian Census Analyser is an online service that allows users to download census data.

Related Guides:
- Explanation of the different levels of geography for the census: http://www.library.mcgill.ca/edrs/data/dli/statcan/census/census2001/docs.html#geog
- Importing E-STAT data into ArcGIS

Requirements:
- A McGill network connection (either at an on-campus computer or through a VPN)
- ArcGIS, available to the McGill community on the GIC computers

The data found through CHASS can be joined to maps to represent the data spatially. Maps in shapefile (ArcGIS) format with census boundaries are available through McGill Library from these publishers:
DMTI: www.edrs.mcgill.ca/GIS/dmti
StatCan: www.library.mcgill.ca/edrs/data/dli/statcan/geography/2001/2001_e.html

Procedure:
1. Go to the University of Toronto Canadian Census Analyser CHASS website: http://datacentre.chass.utoronto.ca/census/index.html
2. Choose which geographic level at which you want your data. They levels appear in increasing order of detail, from data at the national and provincial level down to the smallest available level of census data, the dissemination area.
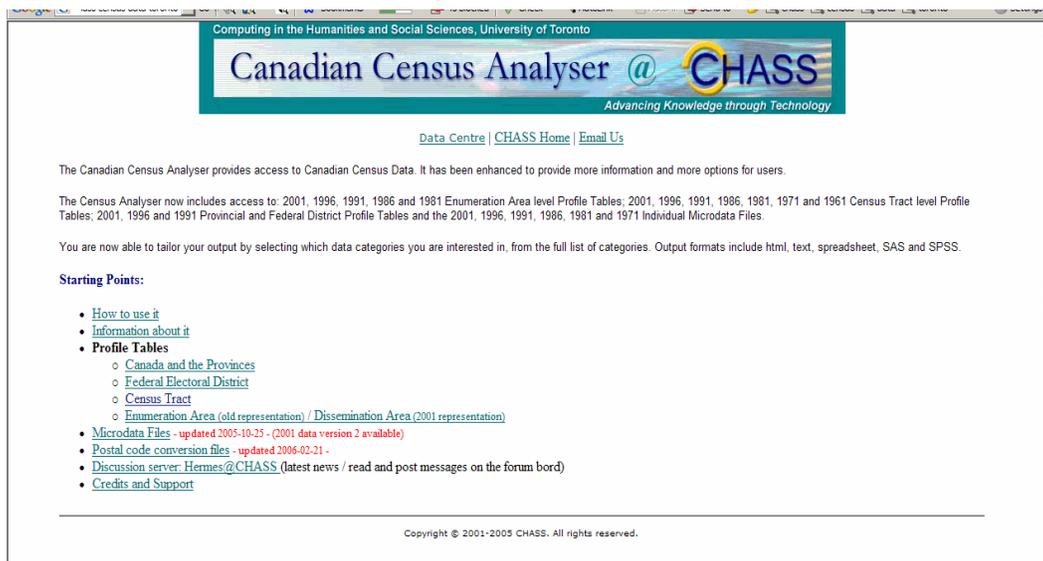
3. Choose the areas for which you want represented. Clicking on a place name while holding down the CTRL key will allow you to make multiple selections at once. Clicking while holding the SHIFT key allows you to make multiple selections that are next to each other.
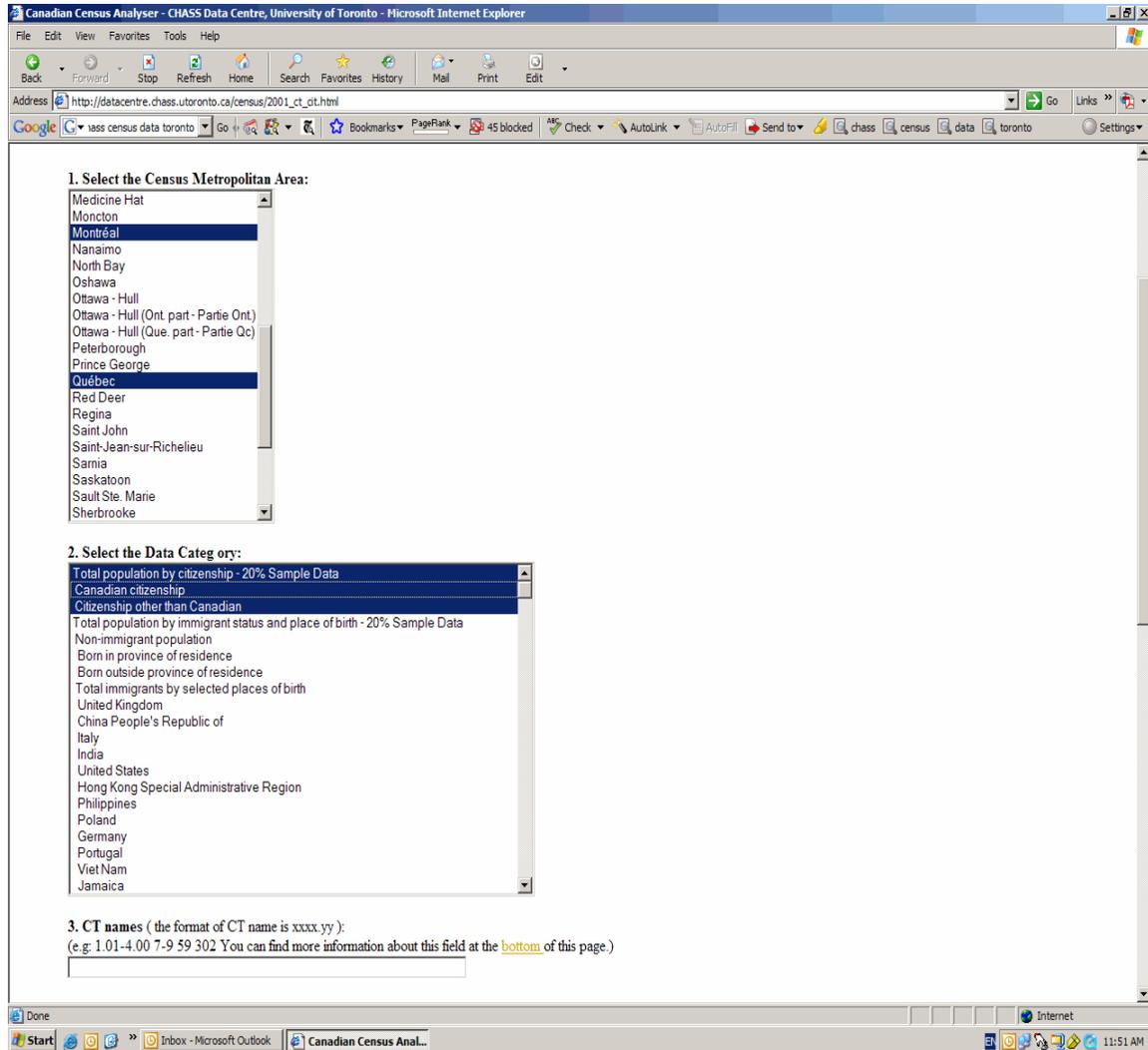
4. Choose the Data Categories you want using the same methods. You can also make specific choices of census areas if you already know their codes. Otherwise, leave #3 blank.
5. Choose "Columns" for #4. Choose "dBase" as your output format. Click on "Submit Query"

4. Data categories to be listed as: Rows: ○ Columns: ⊙

5. Select the output format:

dBASE ▼

6. Submit your request:

Submit Query

This screen will appear:

Canadian Census 2001 Profile Tables/Citizenship, immigration, birthplace, generation status, ethnic origin, visible minorities and aboriginal people

Your request is being processed. Please wait until the url to download the file is displayed!

10 lines processed!
20 lines processed!
30 lines processed!
40 lines processed!
50 lines processed!
60 lines processed!
70 lines processed!
80 lines processed!
90 lines processed!
100 lines processed!
110 lines processed!

When it has finished loading, scroll to the bottom of the page. There will be two files to download:

1000 lines processed!
1010 lines processed!
1014 lines processed!
DONE!

dbf file (dBase binary format): htpp://dc1.chass.utoronto.ca/census/temp/1161618735_g05SRUSOgP.dbf
the columns description of dbf file: htpp://dc1.chass.utoronto.ca/census/temp/1161618735_g05SRUSOgP.txt

6. Click on the file with the .dbf extension, give it a new name, and save it.   You will need to refer to the .txt file in a moment, so keep this window open.
7. Open Excel (Start→Programs→Microsoft Office→Excel). Choose File→Open. You will have to change the "Files of type" box to be "All Files (*.*)". Find your .dbf file and open it.
8. Open the .txt file. This file will tell you what each column heading should be. Type a new heading for each column. Do not leave any spaces in the column headings.
   - The first two columns may appear quite wide and you may not be able to see your other data. This is easily fixed by right-clicking on the column heading, selecting column width to 20, or some other, smaller number.
   - Do not worry that the accents do not appear (or appear as strange symbols) in Excel. They will be fine when you open the file in ArcMap.

For a dataset of Canadian citizens in Montreal, the Excel table should look like this:

	A	B	C	D	E	F	G
1	CMA_NAME	CMA_NUMBER	CT_NUMBER	TOTAL_POP	CAN_CIT	OTHER_CIT	CMACT
2	MontrӨal	462	0000.00	3380645.00	3200950.00	179695.00	4620000.00
3	MontrӨal	462	0001.00	2405.00	2405.00	0.00	4620001.00
4	MontrӨal	462	0002.00	2725.00	2710.00	15.00	4620002.00
5	MontrӨal	462	0003.00	6435.00	6330.00	105.00	4620003.00
6	MontrӨal	462	0004.00	3120.00	3065.00	55.00	4620004.00
7	MontrӨal	462	0005.00	3070.00	3050.00	20.00	4620005.00
8	MontrӨal	462	0006.00	4470.00	4300.00	175.00	4620006.00

9. Choose "Save as" Under "Save as type" choose DBF 4 fileSave as a .dbf IV file.
10. Close Excel (although you will be prompted to save again, you do not have to).
11. Open ArcMap (Start→Programs→ArcGIS→ArcMap). Open a new, empty map.

12. Click on the Add Data button [ ]. Add your .dbf file. It will appear in the Table of Contents.
13. Right click on the table and choose "Open Table"

Depending on what census level your data is, you may have to concatenate (combine) some of the data to make it join with the DMTI geographic files.

Canada and the Provinces: Column 2 (Province/Territory Code) will join with the PR column in the DMTI CANcd.shp (Census Division). No concatenation necessary.

Federal Electoral Districts: Column 2 (Province/Territory Code) will join with the FEDUID column in the DMTI CANfed.shp file. No concatenation necessary.

Census Tract: Column 2 (CMA Number) and Column 3 (Census Tract Name) have to be concatenated to join CMACT_Name column in DMTI CANct.shp

Enumeration/Dissemination Area: When choosing the data categories, be sure to select CD code along with whatever data categories you want. Column 2 (CD Code) and Column 1 (Dissemination Area) have to be concatenated to join the PRCDDA column in CANda.shp.

How to concatenate fields:
- Open the .dbf table in ArcMap.
- Click on "Options" in the bottom of the table.
- Select "Add Field"
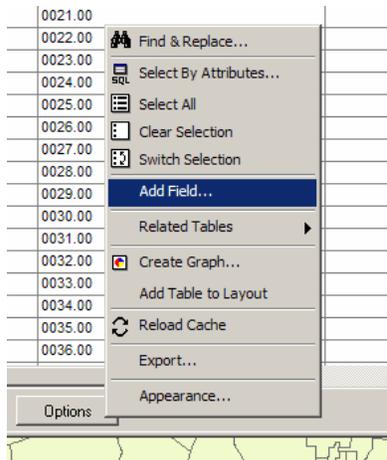
This dialogue box will appear:
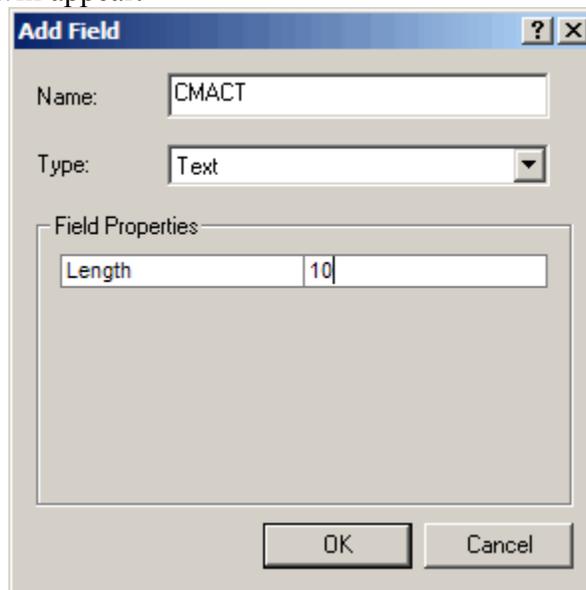
- Choose a name for the field, choose "Text" as the type, and change the length to 10 or 12 characters. Click OK.

- Right-click on the new field's heading and choose "Calculate Values"
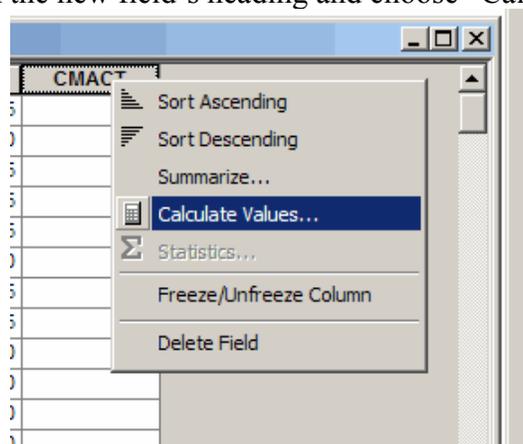
You will get a message:
"You are about to calculate outside of an edit session…. Do you want to continue?"
Choose Yes. (You are adding values to a new column rather than changing existing data, so it is safe to make these edits.)
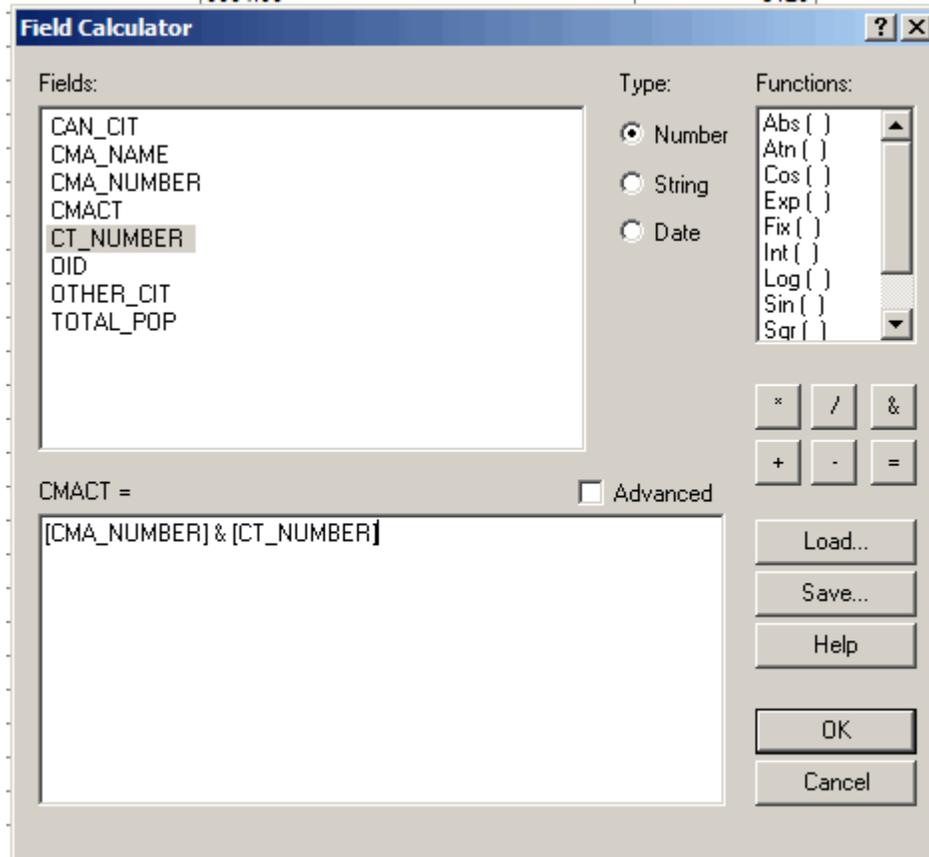
- Choose the fields to be concatenated (see above) and join with the & symbol.

- Click OK.

Your new column will now match the codes in the DMTI Spatial data and can be joined.

NOTE: The concatenation calculation can also be done directly in Excel; however, it does not always import into ArcGIS properly.