

Census Data and GIS

Census Data Sources

Statistics Canada

Census data at the census tract level or larger for 2006 and 2011 are now available for free on the Statistics Canada website:

<http://www.statcan.gc.ca/>

Abacus (UBC Library)

Dissemination area level 2006 Census data are available through the UBC Library's data server *Abacus*. When the 2011 dissemination area data become available, they will be added to *Abacus* as well.

"Topic-based Tabulations" are tables that have information about:

- Immigration
- Languages
- Marital status
- Labour force activity
- Housing
- Education
- Age and sex

The shapefile "Combined Dissemination Block Digital Boundary File and Geographic Attribute File, 2006" joins dissemination block polygons with information about:

- Population
- Private dwellings

Or, you can search *Abacus* for other census and survey data tables.

SimplyMap

SimplyMap is a web-based program with the following types of Canadian data:

- Adjusted census data 2006
- Demographic estimates for 2010, 2011 and 2015
- Household spending 2010, 2011

SimplyMap also has data for the United States, including:

- Census data
- Consumer expenditure
- Marketing, business and consumer data

Acquiring Census Data and Incorporating Files into GIS

Topic-based Tabulations in Abacus

1. Go to the Abacus website: <http://abacus.library.ubc.ca/jspui/>
2. Click the “UBC Member” link on the right under “Login to Abacus”

The screenshot shows the Abacus website homepage. The header includes the Abacus logo and the text "British Columbia Research Libraries' Data Services". Below the header, there are links for "Participating Institutions" including Simon Fraser University, University of British Columbia, University of Northern BC, and University of Victoria. The main content area features a search box, a "Welcome to Abacus: Please login at right." message, and a list of "Newest Abacus additions". On the right side, there is a "Login to abacus" section with links for "UBC Member", "SFU Member", "UNBC Member", and "UVIC Member". The "UBC Member" link is circled in red. Below the login links, there are links for "Administrator", "News" (abacus V1.0 2009.11.18), and "RSS Feeds" (RSS 1.0 and RSS 2.0).

3. Log in using your CWL or library barcode and pin
4. In the search box, type “topic-based tabulations”

The screenshot shows the Abacus website search box. The search box is circled in red. The search box contains the text "Search" and a "Go" button. Below the search box, there are links for "Advanced Search" and "Subject Search".

5. Click on “Census of Canada. Topic-based Tabulations, 2006.”

Title	Issue Date	Publisher/Distributor	Access
Census of Canada. Portrait of Official-language Communities in Canada, 2006 [2009]	2009	Statistics Canada	ABACUS
Census of Canada. Topic-based Tabulations, 2006	2006	Statistics Canada	ABACUS
Census of Canada. Portrait of Official-language Communities in Canada, 2001	2002	Statistics Canada	SFU
Census of Canada. Topic-based Tabulations, Basic Census Tabulations, 2001	2001	Statistics Canada	ABACUS

- There are several tables that cover a variety of topics and geographic areas. Make sure that the table you select includes dissemination areas if that is the level of geography that you are looking for. In this example, let's look for average income. There is a table that covers Income and Earnings.

97-559-xcb2000029-east-ivt_rev2.zip (12A) and Sex (3) for the Population 15 years and over of Canada, Provinces, Territories, Census Divisions, Census Subdivisions and Dissemination Areas - 20% Sample Data: Atlantic (Beyond 20/20/.zip)

 97-563-xcb2006072-ivt.zip Income and Earnings - Presence of Income (9), Age Groups (5A) and Sex (3) for the Population 15 Years and Over: Canada, Provinces, Territories, Census Divisions, Census Subdivisions and Dissemination Areas (Beyond 20/20/.zip)

97-557-xrh2006011-ivt.zip Immigration and Citizenship - Immigrant Status and Place of Birth (38), Sex (3) and Age Groups (10) for the Population of Canada, Provinces, Territories, Census Divisions, Census Subdivisions and Dissemination Areas - 2006 Census - 20%

- Click the link at the left to download the file. It is in the Beyond 20/20 format, but is compressed into a ZIP file.
- Unzip the file.
- Open the file in Beyond 20/20.

Geography (01) 20000		Age groups (5A) Total - Age groups		
Sex (3)		Total - Sex	Male	Female
Presence of inc				
Total - Population 15 years and over		25,664,220	12,470,785	13,193,435
Without income		1,241,065	518,630	722,435
With income		24,423,160	11,952,160	12,471,005
Median 2005 total income \$		25,615	32,224	20,460
Median 2005 after-tax income \$		23,307	28,291	19,287
Average 2005 total income \$		35,498	43,684	27,653
Standard error of average total income \$		30	56	21
Average 2005 after-tax income \$		29,214	34,834	23,828
Standard error of average after-tax income \$		20	37	15

- Select Geography and drag it to the row heading.

Geography (01) 20000		Age groups (5A) Total - Age groups		
Sex (3)		Total - Sex	Male	Female
Presence of inc				
Total - Population 15 years and over		25,664,220	12,470,785	13,193,435
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Standard error of average total income \$		30	56	21
Average 2005 after-tax income \$		29,214	34,834	23,828
Standard error of average after-tax income \$		20	37	15
Geography				
Canada (01) 20000		25,664,220	12,470,785	13,193,435
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000		422,385	203,115	219,270
Division No. 1 (1001) 00000		207,055	98,565	108,490

- Select Income and drag it to the column heading.

Presence of inc Total - Population 15 years and over		Age groups (5A) Total - Age groups		
Sex (3)		Total - Sex	Male	Female
Geography				
Canada (01) 20000		25,664,220	12,470,785	13,193,435
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000		422,385	203,115	219,270
Division No. 1 (1001) 00000		207,055	98,565	108,490
Age groups (5A) Total - Age groups				
Sex (3)		Total - Sex	Without income	With income
Presence of inc				
Geography		Total - Population...	Without income	With income
Canada (01) 20000		25,664,220	1,241,065	24,423,160
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000		422,385	24,710	397,675
Division No. 1 (1001) 00000		207,055	11,235	195,820
Portugal Cove South (1001105) T 01000		n	n	n

12. Drag any other headings to the top grey area to remove them from the table.

Age groups (5A) Total - Age groups		Sex (3) Total - Sex	Total - Population	Without income	With income
Geography		Presence of inc	Total - Population	Without income	With income
Canada (01) 20000			25,664,220	1,241,065	24,423,160
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000			477,385	24,710	397,675

13. In the Presence of Income column headings, select the "Average 2005 Total Income \$" column to highlight it. Click on "Item" in the menu, select "Show".

Age groups (5A) Total - Age groups		Sex (3) Total - Sex	With income	Median 2005 total income \$	Median 2005 after-tax income \$	Average 2005 total income \$	Standard error average total income \$
Geography		Presence of inc	With income	Median 2005 total income \$	Median 2005 after-tax income \$	Average 2005 total income \$	Standard error average total income \$
Canada (01) 20000			24,423,160	25,615	23,307	35,498	
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000			397,675	19,573	18,149	27,636	
Division No. 1 (1001) 00000			195,820	21,817	19,814	30,350	
Portugal Cove South (1001105) T 01000			0	0	0	0	
10010734 (10011050734) 01000			0	0	0	0	
Trepassey (1001113) T 00000			665	17,707	17,072	24,881	2
10010735 (1001130735) 01010			450	16,505	16,247	25,568	2
10010736 (1001130736) 00000			215	19,917	18,632	23,455	2
St. Shott's (1001120) T 00000			0	0	0	0	
10010733 (10011200733) 00000			0	0	0	0	
Division No. 1, Subd. U (1001124) SNO 01010			1,290	18,471	17,309	23,471	1
10010737 (10011240737) 01000			390	15,876	15,508	22,858	2
10010741 (10011240741) 02010			545	18,510	18,224	23,649	1

14. In the Geography column, select the British Columbia dissemination areas (all those beginning with 59) by first clicking on the first entry, listed as British Columbia.

Age groups (5A) Total - Age groups		Sex (3) Total - Sex	Presence of inc	Average 2005 total income \$
Geography		Presence of inc	Presence of inc	Average 2005 total income \$
48190291 (48190740291) 01010				42,201
Horse Lakes 152B (4819815) IRI 02020				19,837
48190262 (48198150262) 02020				19,837
British Columbia / Colombie-Britannique (59) 21010				34,519
East Kootenay (5901) 01010				34,175
Elkford (5901003) DM 01010				42,252

15. Scroll down the table until you find the last entry, just before Yukon Territory, hold down the shift key and click on the last entry for British Columbia. Click on "Item" in the menu, select "Show".

Northern Rockies B (5959013) RDA 02020			0
59590013 (59590130013) 02020			0
Fort Nelson 2 (5959806) IRI 00020			20,818
59590018 (59598060018) 00020			20,818
Yukon Territory / Territoire du Yukon (60) 00010			38,687
Yukon (6001) 00010			38,687
Watson Lake (6001003) T 00010			35,377

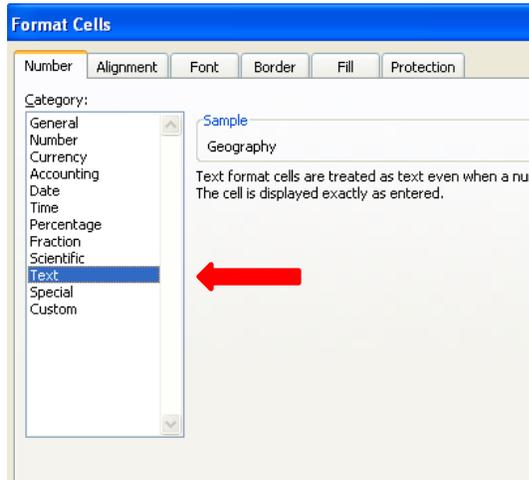
16. Select the “Next Label” button until the geography shows up as eight-digit dissemination area codes (along with text).

Geography	Presence of inc	Average 2005 total income \$
59570018		0
Five Mile Point 3 IRI		0
59570019		0
Lower Post S-É		0
59570024		0
Northern Rockies		46,913
Fort Nelson T		48,072
59590019		37,945
59590020		48,675
59590021		41,647
59590022		43,372
59590023		30,000

17. To export the table, click on “File” in the menu and select “Save As...” then change the type to “Comma Separated (*.csv)”. Navigate to a place where you want to save the file, and give the file a name. Click Save.
18. Open the file in Excel. The column heading name “Average 2005 Total Income \$” includes spaces and symbols, which ArcGIS won’t like. Change the heading to something like AVG_INC2005.
19. Unfortunately, the CSV saves the dissemination area codes as numbers, but the equivalent codes in the geometry file (which we’ll get to) are text. The two files will not join properly unless they are both of the same type. To fix this, highlight the Geography field and right click, then select “Format Cells...”

	A	B	C	D
1	Geography			
2	British Columbia / Colombie-Britan			
3	East Kootenay			
4	Elkford DM			
5				
6				
7				
8				
9				
10	Sparwood DM			
11				
12				
13				
14				
15		59010232	32556	
16		59010233	46699	
17		59010234	32120	
18	Fernie CY		34542	
19		59010217	21965	

20. Change the format to “text” and click OK.



21. Save the file as an **Excel** table and close it. (Keeping the file in CSV will not save this formatting change.)

22. To download the geometry that goes with this file, search Abacus for the “Cartographic Boundary Files” for 2006 and click on the link.

ESRI Data & Maps 9.3, 2008. StreetMap North America	2008	ESRI	UBC
Census of Canada. Dissemination Block Boundary Files, 2006 [2007]	2007	Statistics Canada	ABACUS
Census of Canada. Cartographic Boundary Files, 2006	2006	Statistics Canada	ABACUS
Census of Canada. Road Network and Geographic Attribute File, 2006	2006	Statistics Canada	ABACUS
Canmap Streetfiles, v2006.3, 2006	2006	DMTI Spatial Inc.	ABACUS

23. Select the file for British Columbia dissemination areas.

gdb_059b06a_e.zip	British Columbia (059) - Dissemination Block (DB) (Arcinfo /.zip)	23.39 MB	ZIP
gda_059b06a_e.zip	British Columbia (059) - Dissemination Areas (DA) (Arcinfo /.zip)	9.75 MB	ZIP
abstract.html	Abstract - Description of the dataset in HTML format. [PUBLIC]	323 B	HTML

24. Save the file to a location and unzip it. This is a polygon shapefile.

25. In ArcMap, the polygon shapefile field “DAUID” can then be joined to the Excel table’s field “Geography”.

Population and Private Dwelling Counts

Population figures for dissemination blocks by province are available already joined in shapefile format.

1. Repeat steps 1 through 3 above to log in to Abacus.
2. Search *Abacus* for “Combined Dissemination Block Digital Boundary File and Geographic Attribute File, 2006” and click on it to open the information page for that file.
3. Click on the file “BritishColumbia_GAF.zip” to download the shapefile for British Columbia.

:: ABACUS Data Sets

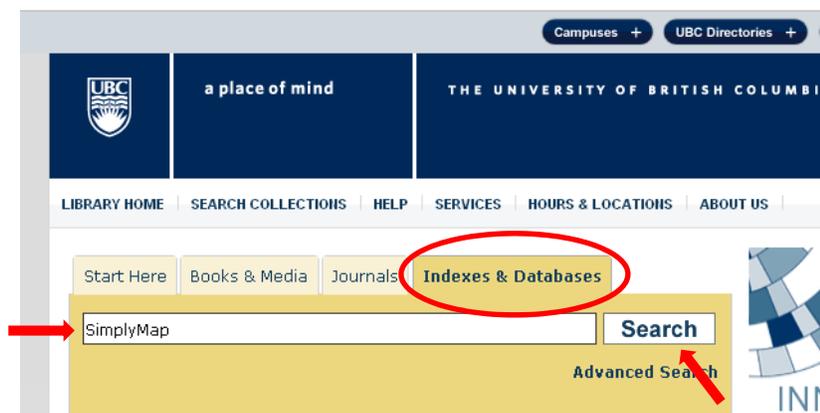
Files in This Item:		
File	Description	Size
Alberta_GAF.zip	Alberta (ArcGIS shapefile)	28.52 MB
 BritishColumbia_GAF.zip	British Columbia (ArcGIS shapefile)	24.86 MB
Manitoba_GAF.zip	Manitoba (ArcGIS shapefile)	14.61 MB
NewBrunswick_GAF.zip	New Brunswick (ArcGIS shapefile)	6.63 MB

4. Unzip it and open it in ArcMap. The field “dbpop06” is the dissemination block population for the 2006 census. The field “dbtdwel06” is the total number of dwellings in the dissemination block for the 2006 census.

SimplyMap

Keep in mind that only 5 users at a time can use SimplyMap. If you are unable to access the program, it is because there are already 5 people logged in, and try again later.

1. From the Library’s home page (www.library.ubc.ca), select the “Indexes and Databases” tab of the search box and type “SimplyMap” (all one word) in the text box, and click on “Search”.

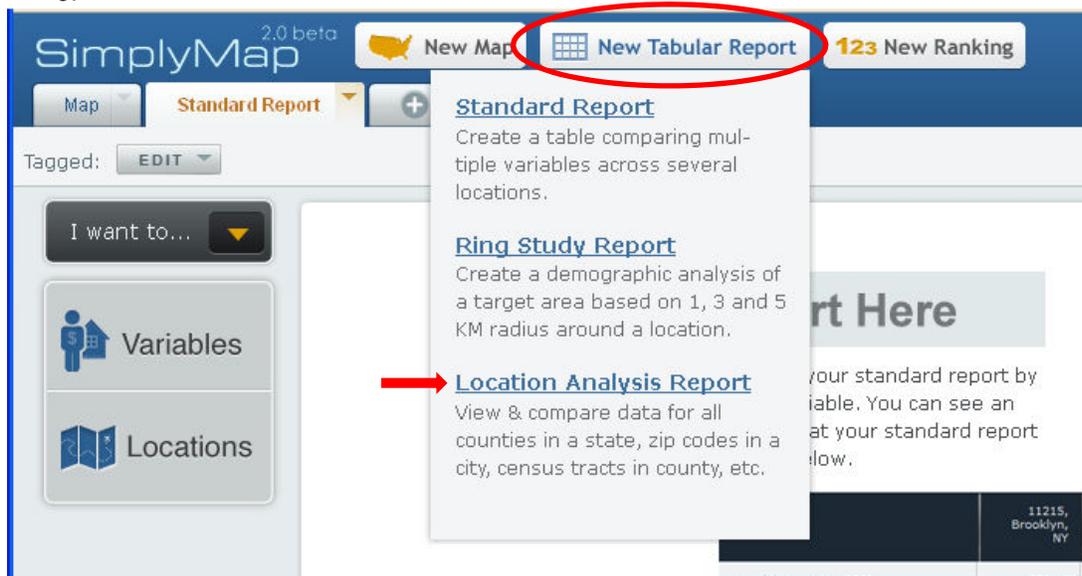


2. On the results page, click on “SimplyMap”.
3. On the information page, click on “SimplyMap”.
4. On the login page, you can create your own account so that your work will be saved. Or, you can just click the word “here” to open a temporary account that won’t save your work.

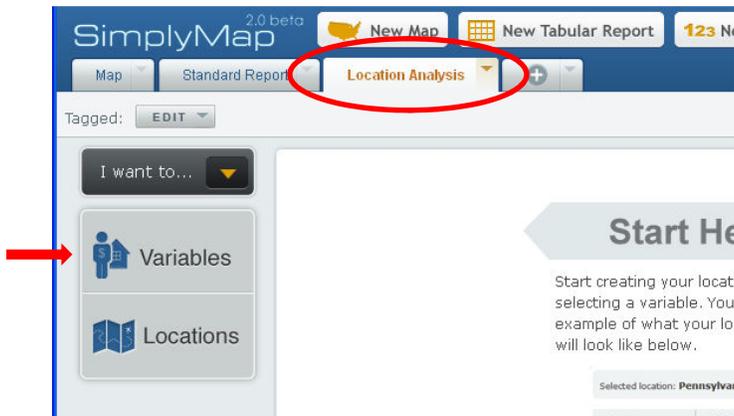


5. In this example, we want to create a table that shows the number of people in each dissemination area in Vancouver who have master’s degrees. Click on “New Tabular Report” on the top of the page, then click “Location Analysis Report”. This type of report allows us to choose a variable and create a table for a geographic area broken down by dissemination areas or census tracts.

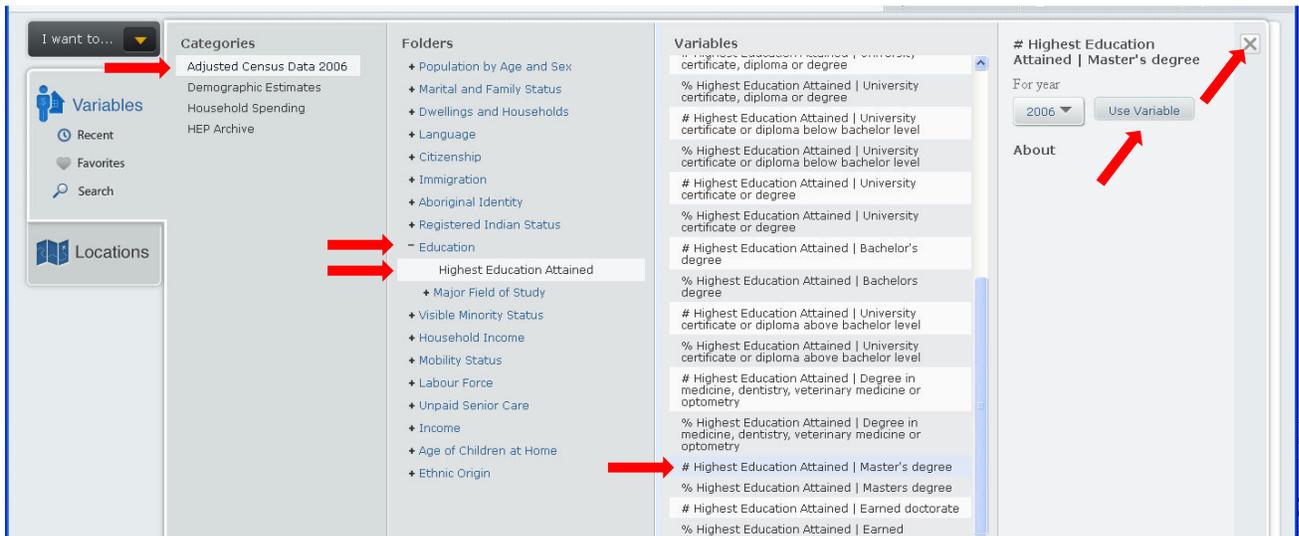
6.



7. You are now on a new “Location Analysis” tab. Click on the “Variables” button to select a variable.



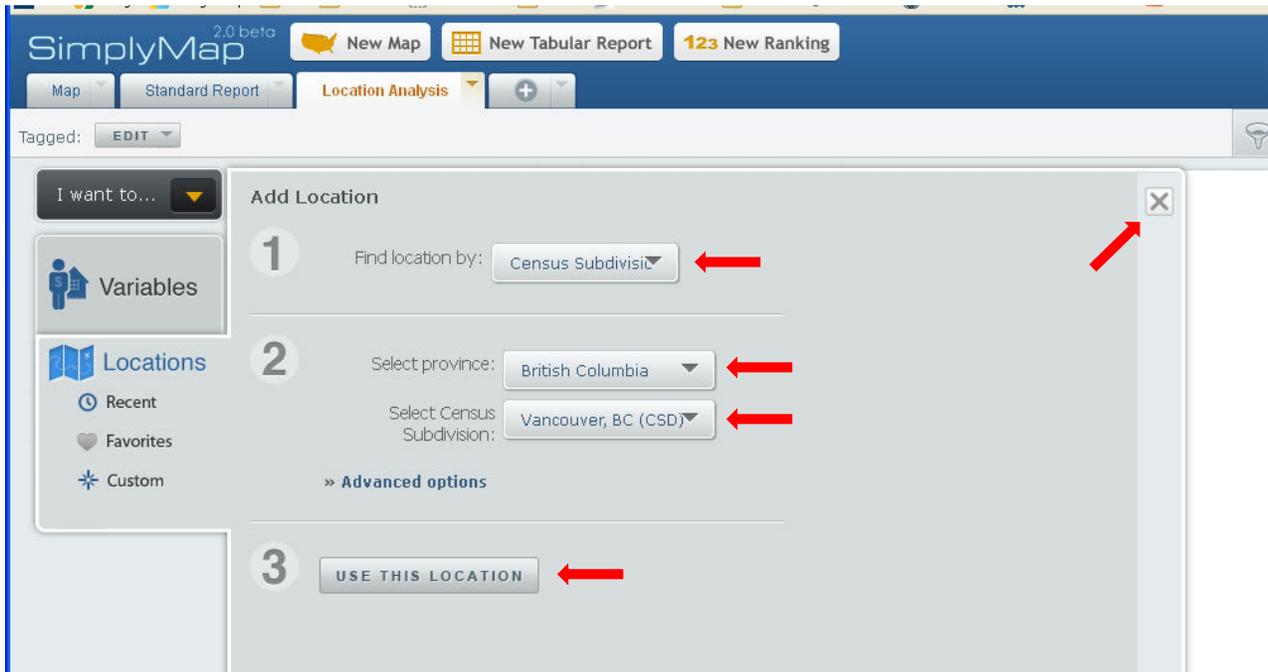
8. For our example, click on “Adjusted Census Data 2006”, then in the next column click on “Education” to expand the category. Click on “Highest Education Attained”. In the next column, select the variable “# Highest Education Attained | Master’s degree”. In the last column, click on “Use Variable”. Then click the X in the top right corner to close the dialogue box.



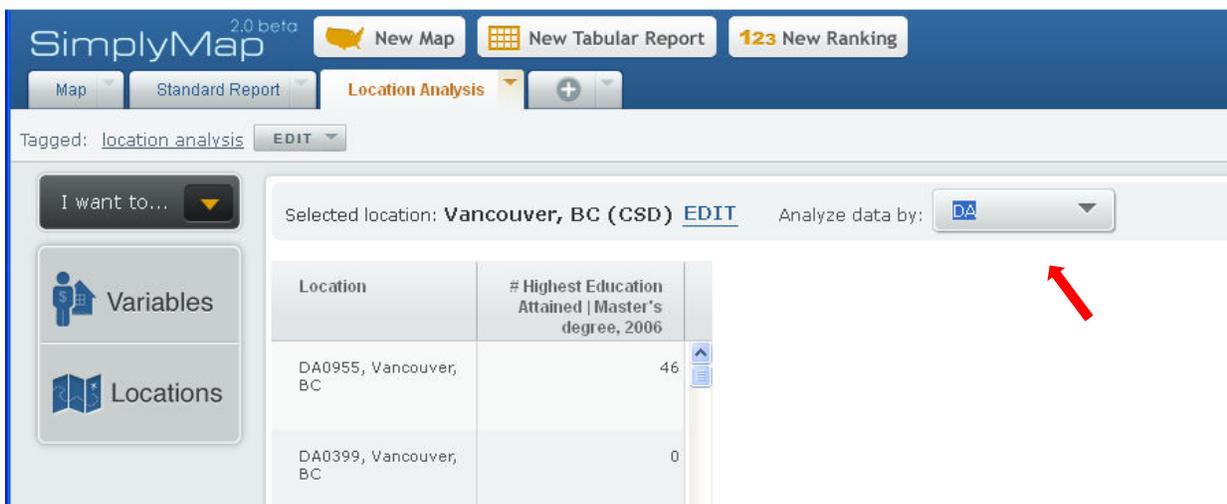
9. Click on the “Locations” button to select a geographic location.



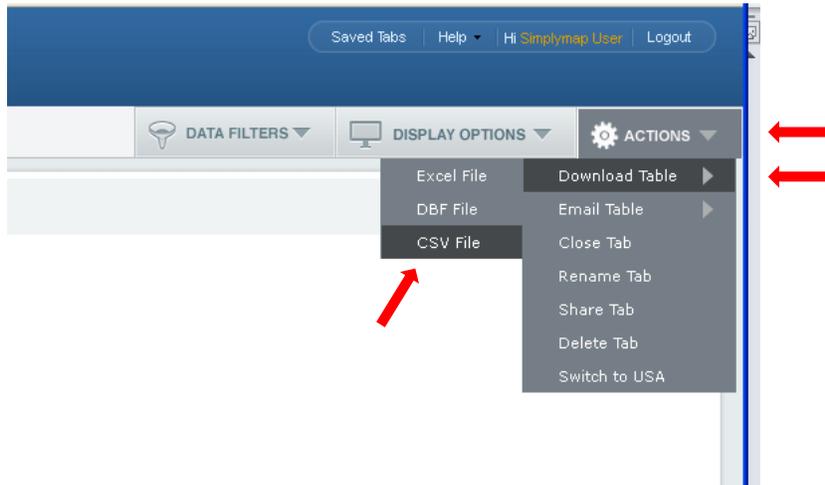
10. In the “Find Location by” dropdown list, choose “Census Subdivisions.” We are searching for the city of Vancouver. Municipalities and Census Subdivisions (CSD) typically have the same boundaries. Although we want our map to show dissemination areas, we are not choosing that here. We are choosing the full extent of the area that we want to study. If we were looking for all of Metro Vancouver, we would choose Census Divisions.
11. Next to “Select province:” choose British Columbia. The dropdown list for BC CSD appears. Select “Vancouver, BC (CSD).”
12. Click on “Use this location” then click the X in the top right corner to close the dialog box.



13. The table may appear as a listing of census tracts. This is where we specify that we want our data by dissemination areas. Click the dropdown box next to “Analyze data by” and select “DA”.

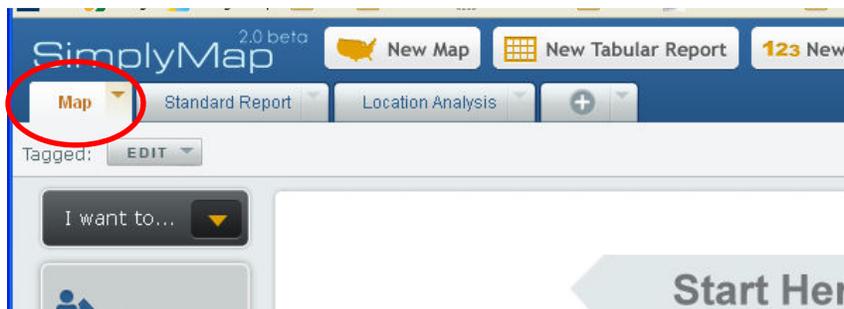


14. To export the table, click the “Actions” button in the top right corner. Select “Download Table,” then select the file type that you prefer. In this example, I have chosen “CSV file.”

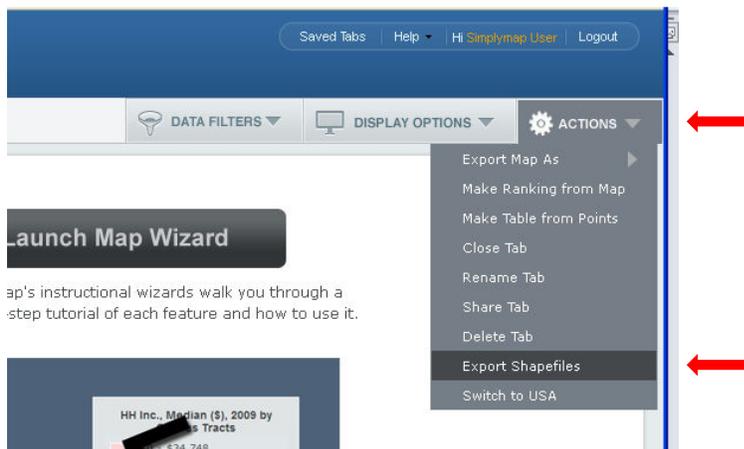


15. Open up the exported table and change the headings so that there are no spaces or characters in the heading names. ArcGIS will not import the data set unless you make these changes. Save and close the file.

16. Back in SimpleMap, click on the “Map” tab to change your view. This tab has different choices under the “Actions” dropdown list.



17. Click on “Actions,” then “Export Shapefiles.”



18. In the dialogue box that appears, select the Geographic Unit (Dissemination Area in our example) and Area (British Columbia) that you want for your polygon shapefile. Click “Save” and save the file to the location of your choice. You will need to unzip the downloaded file before bringing it into ArcGIS.



19. The table and shapefile can be joined in ArcGIS using the “LOCATION_N” field in the shapefile and the “Location” field in the table.