

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

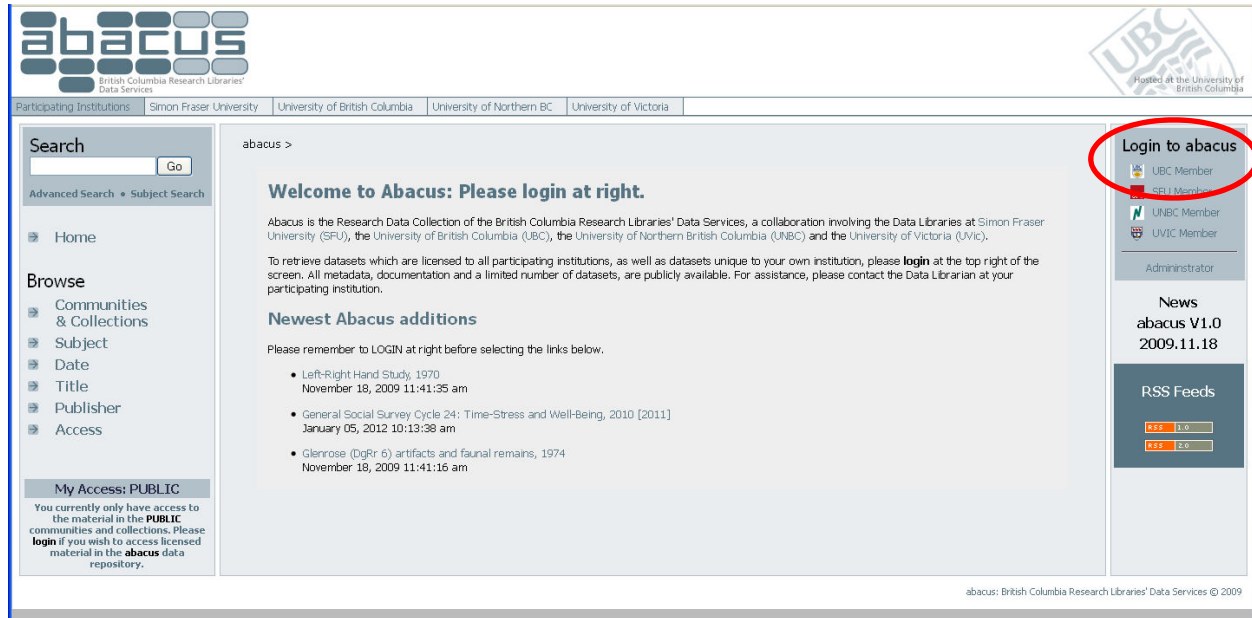
SimplyMap also has data for the United States, including:

- 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”



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



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-xcb2006029-east-ivt.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)	1
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)	1
97-557-xrb2006011-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%	2

- 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 (1): Canada (01) 20000	Age groups (5A) (1): Total - Age groups			
Sex (3) (1)	Total - Sex	Male	Female	
Presence of inc (1)				
Total - Population 15 years and over (1)	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	

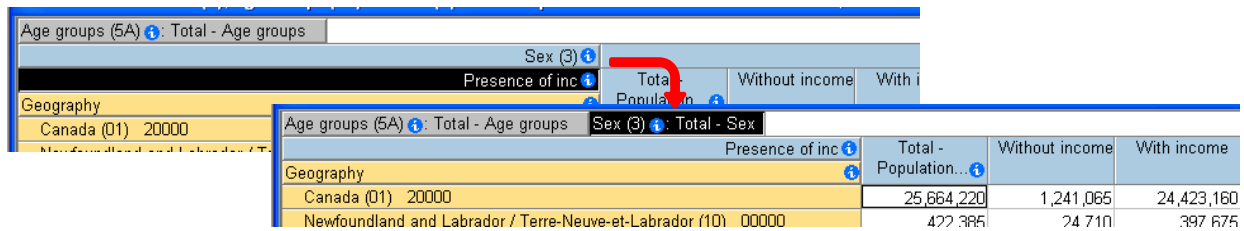
- Select Geography and drag it to the row heading.

Geography (1): Canada (01) 20000	Age groups (5A) (1): Total - Age groups			
Sex (3) (1)	Total - Sex	Male		
Presence of inc (1)				
Total - Population 15 years and over (1)				
Without income				
Geography (1)				
Canada (01) 20000	25,664,220	12,470,785		
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000	422,385	203,110		
Division No. 1 (1001) 00000	207,055	98,000		

- Select Income and drag it to the column heading.

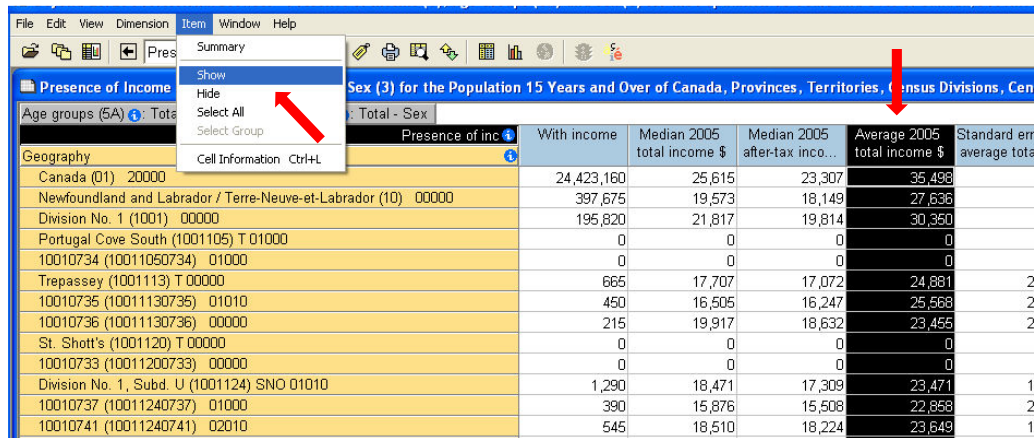
Presence of inc (1): Total - Population 15 years and over (1)	Age groups (5A) (1): Total - Age groups			
Sex (3) (1)	Total - Sex	Male		
Geography (1)				
Canada (01) 20000	25,664,220	12,470,785		
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000	422,385	203,110		
Division No. 1 (1001) 00000	207,055	98,000		
Portugal Cove South (1001105) T 01000	n	n		
Age groups (5A) (1): Total - Age groups				
Sex (3) (1)				
Presence of inc (1)				
Geography (1)				
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		

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



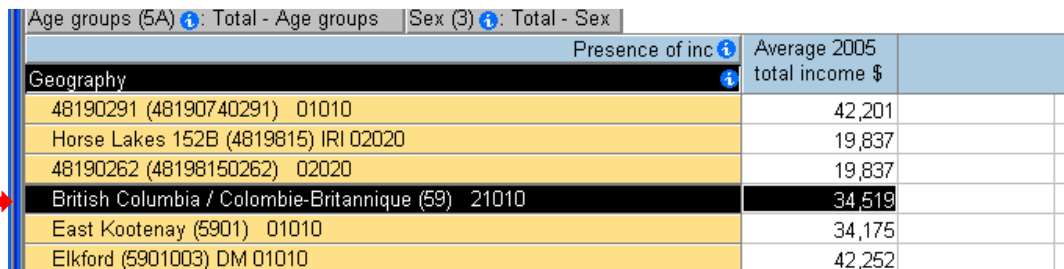
Age groups (5A) Total - Age groups	Sex (3) Total - Sex	Presence of inc	Total - Population	Without income	With income
Geography					
Canada (01) 20000			25,664,220	1,241,065	24,423,160
Newfoundland and Labrador / Terre-Neuve-et-Labrador (10) 00000			477,385	24,710	397,675

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".



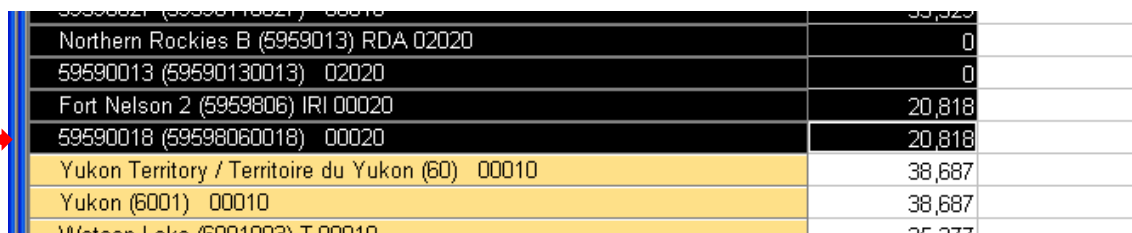
Age groups (5A) Total - Age groups	Sex (3) Total - Sex	Presence of inc	With income	Median 2005 total income \$	Median 2005 after-tax income \$	Average 2005 total income \$	Standard error average total
Geography							
Canada (01) 20000			24,423,160	25,615	23,307	35,498	
Newfoundland and Labrador / Terre-Neuve-et-Labrador (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 (10011130735) 01010			450	16,505	16,247	25,568	2
10010736 (10011130736) 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.



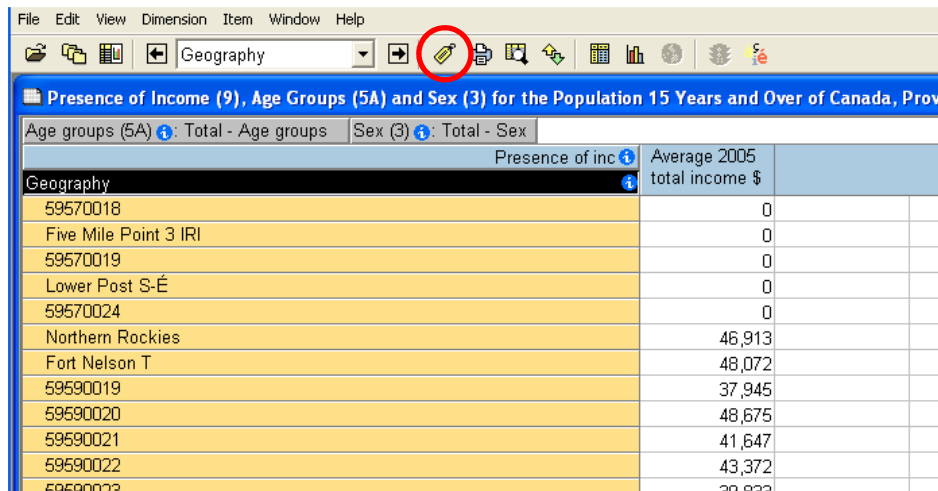
Age groups (5A) Total - Age groups	Sex (3) Total - Sex	Presence of inc	Average 2005 total income \$
Geography			
48190291 (48190740291) 01010			42,201
Horse Lakes 152B (4819815) IRI 02020			19,837
48190262 (48198150262) 02020			19,837
British Columbia / Colombie-Britannique (59) 21010			34,519
East Kootenay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

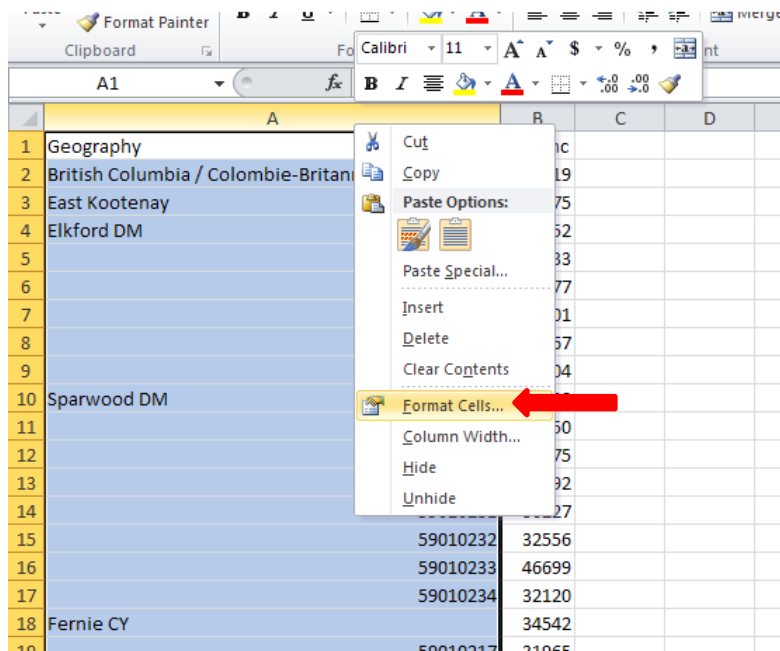
16. Select the “Next Label” button until the geography shows up as eight-digit dissemination area codes (along with text).



The screenshot shows a software window with a menu bar (File, Edit, View, Dimension, Item, Window, Help) and a toolbar. A red circle highlights the 'Next Label' button (a button with a right-pointing arrow and a label). Below the toolbar, there is a title bar for a table: 'Presence of Income (9), Age Groups (5A) and Sex (3) for the Population 15 Years and Over of Canada, Prov'. The table has two tabs: 'Age groups (5A) : Total - Age groups' and 'Sex (3) : Total - Sex'. The table columns are 'Geography', 'Presence of inc', and 'Average 2005 total income \$'. The data rows show various geographical areas and their corresponding income values.

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		30,822

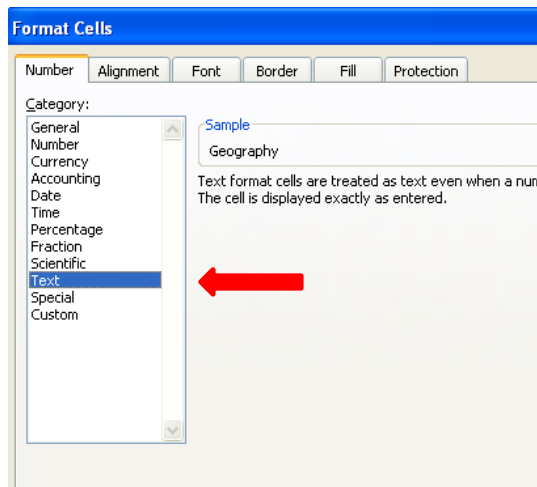
17. To export the table, click on “File” in the menu and select “Save As...” then change the type to “Comma Separated (*.csv)”. Navigate to a place where you want to save the file, and give the file a name. Click Save.
18. Open the file in Excel. The column heading name “Average 2005 Total Income \$” 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...”



The screenshot shows an Excel spreadsheet with a table of population data. A right-click context menu is open over the 'Geography' column, with the 'Format Cells...' option highlighted by a red arrow. The table columns are 'Geography', 'Presence of inc', and 'Average 2005 total income \$'. The data rows show various geographical areas and their corresponding income values.

Geography	Presence of inc	Average 2005 total income \$
1 Geography		
2 British Columbia / Colombie-Britannique		
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”.



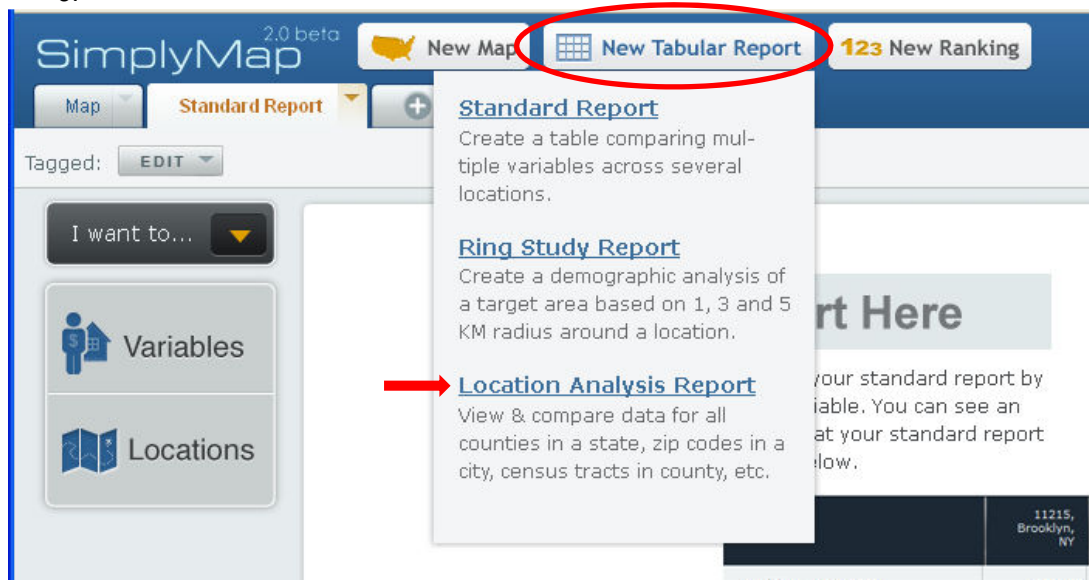
2. On the results page, click on “SimplyMap”.
3. On the information page, click on “SimplyMap”.
4. On the login page, you can create your own account so that your work will be saved. Or, you can just click the word “here” to open a temporary account that won’t save your work.



The image shows the 'Welcome to SimplyMap' login page. It features a blue header with the 'SimplyMap 2.0 beta' logo. Below the header, the text 'Welcome to University of British Columbia's SimplyMap account. To start just [create an account](#).' is displayed. A message follows: 'If you already have an account, sign in below.' There are two input fields for 'Email address' and 'Password'. Below these is a checkbox for 'Use full screen mode'. A 'SIGN IN' button is present, along with the text 'Or [Cancel](#)'. At the bottom, a message states: 'To create a temporary account, click [here](#). Your work will not be saved.' A red arrow points to the word 'here'. At the very bottom, there are links for 'Privacy Statement' and 'Copyright & Disclaimer'.

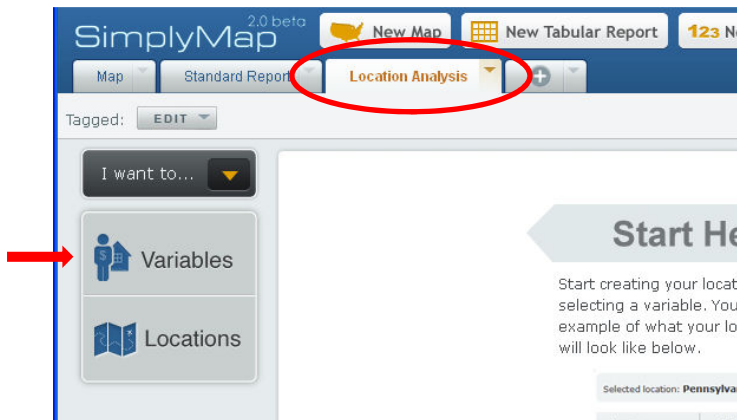
5. In this example, we want to create a table that shows the number of people in each dissemination area in Vancouver who have master’s degrees. Click on “New Tabular Report” on the top of the page, then click “Location Analysis Report”. This type of report allows us to choose a variable and create a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

6.

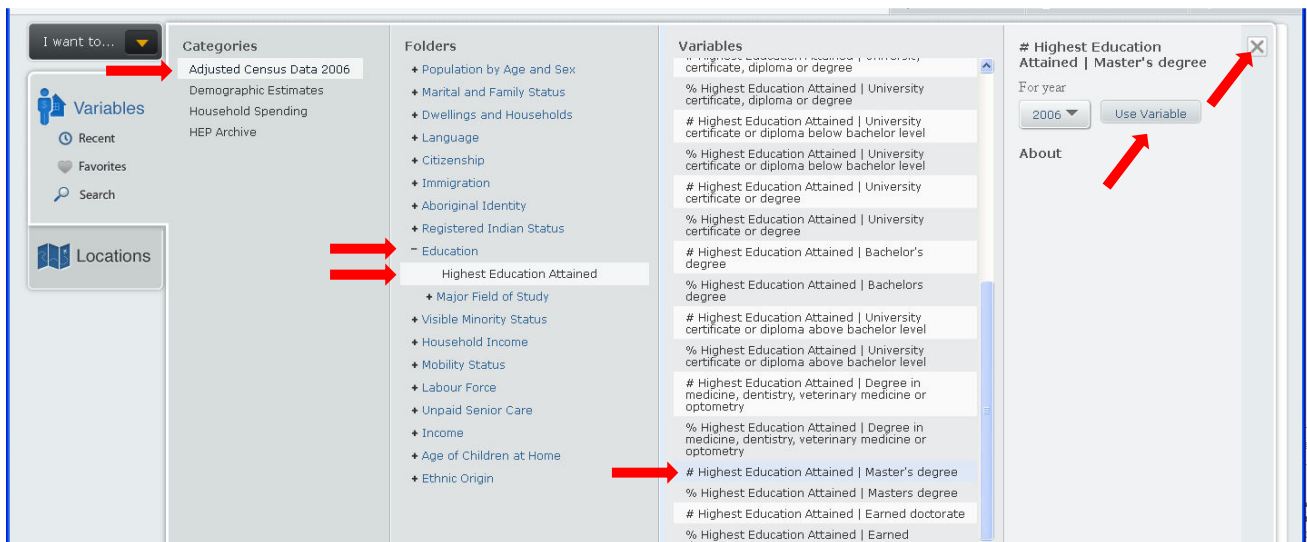


The image shows the 'SimplyMap 2.0 beta' interface. At the top, there are buttons for 'New Map' and 'New Tabular Report', with the latter circled in red. To the right of these buttons is a badge that says '123 New Ranking'. Below the 'New Tabular Report' button, a dropdown menu is open, showing three options: 'Standard Report', 'Ring Study Report', and 'Location Analysis Report'. A red arrow points to the 'Location Analysis Report' option. The 'Standard Report' description is: 'Create a table comparing multiple variables across several locations.' The 'Ring Study Report' description is: 'Create a demographic analysis of a target area based on 1, 3 and 5 KM radius around a location.' The 'Location Analysis Report' description is: 'View & compare data for all counties in a state, zip codes in a city, census tracts in county, etc.'

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.

SimplyMap 2.0 beta

New Map New Tabular Report 123 New Ranking

Map Standard Report Location Analysis

Tagged: EDIT

I want to...

Variables

Locations

Recent

Favorites

Custom

1 Find location by: Census Subdivisi...

2 Select province: British Columbia

Select Census Subdivision: Vancouver, BC (CSD)

» Advanced options

3 USE THIS LOCATION

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”.

SimplyMap 2.0 beta

New Map New Tabular Report 123 New Ranking

Map Standard Report Location Analysis

Tagged: location analysis EDIT

I want to...

Variables

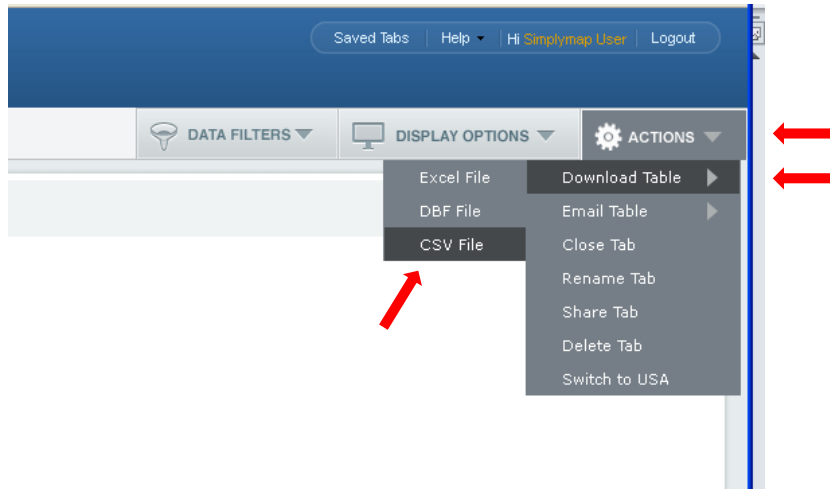
Locations

Selected location: Vancouver, BC (CSD) EDIT

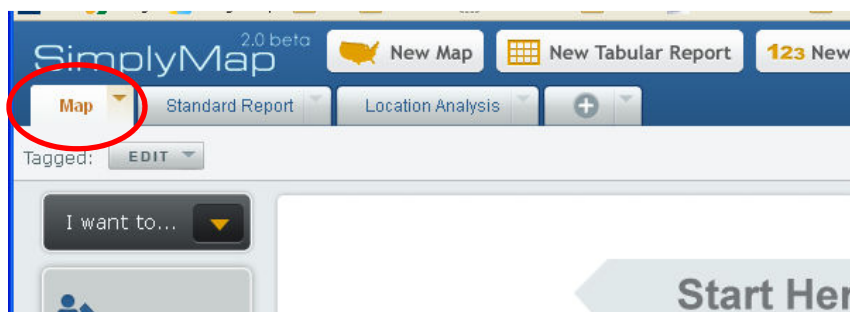
Analyze data by: DA

Location	# Highest Education Attained Master's degree, 2006
DA0955, Vancouver, BC	46
DA0399, Vancouver, BC	0

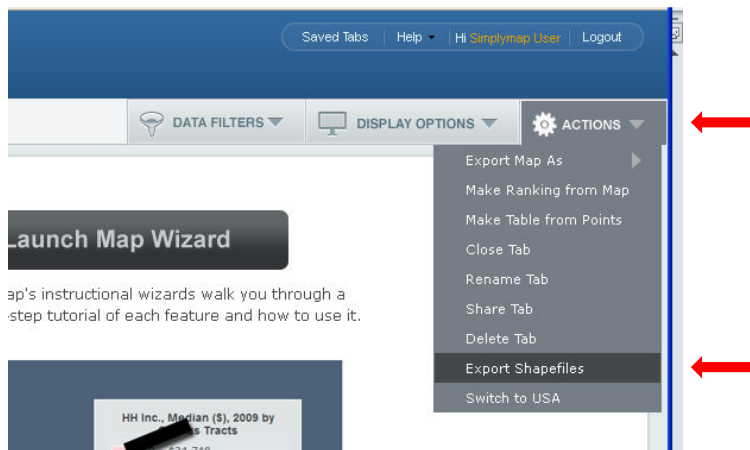
14. To export the table, click the “Actions” button in the top right corner. Select “Download Table,” then select the file type that you prefer. In this example, I have chosen “CSV file.”



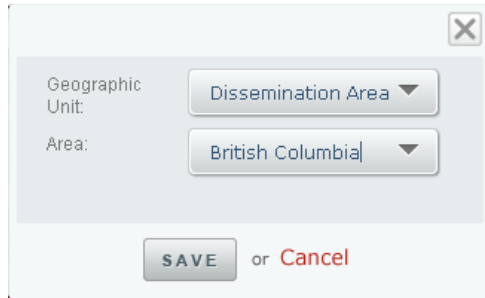
15. Open up the exported table and change the headings so that there are no spaces or characters in the heading names. ArcGIS will not import the data set unless you make these changes. Save and close the file.
16. Back in SimplyMap, click on the “Map” tab to change your view. This tab has different 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.



A screenshot of a software dialog box. It has a title bar with a close button (X) in the top right corner. The main area contains two labels on the left: "Geographic Unit:" and "Area:". To the right of each label is a dropdown menu. The "Geographic Unit:" dropdown shows "Dissemination Area" with a downward arrow. The "Area:" dropdown shows "British Columbia" with a downward arrow. At the bottom of the dialog, there is a "SAVE" button, followed by the text "or", and then the word "Cancel" in red.

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.