ACS Public Use Microdata Samples
DataFerrett

Hawaii

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United States Census Bureau | U.S. Department of Commerce, Economics and Statistics Administration, U.S. CENSUS BUREAU, census.gov

Outline

- Summary Data vs. Microdata
- Fundamentals of PUMS Data
- Geography and the PUMS
- Accessing PUMS Data
- Issues to be Aware of
- Documentation and Guidance

United States Census Bureau | U.S. Department of Commerce, Economics and Statistics Administration, U.S. CENSUS BUREAU, census.gov

Summary Data Versus Microdata

Summary Data

- Premade or published tables
- Easy to get, even for small areas
- Limitations: fixed content

Microdata

- Dataset of individual responses to questionnaire
- Enables custom tables and analyses
- Limitations: edits to protect privacy, can't study small areas

Summary Data

	United States	
	Estimate	Margin of Error
Total:	309,349,689	*****
Afghan	76,654	+/-10,187
Albanian	179,426	+/-14,789
Alsatian	5,701	+/-1,109
American	19,975,875	+/-105,096
Arab:	1,399,809	+/-33,589
Egyptian	176,817	+/-13,703
Iraqi	95,564	+/-12,376
Jordanian	55,588	+/-8,438
Lebanese	368,717	+/-13,131
Moroccan	70,183	+/-8,115
Palestinian	82,744	+/-10,786
Syrian	103,489	+/-9,006
Arab	251,602	+/-16,719
Other Arab	195,105	+/-14,678
Armenian	409,282	+/-17,032
Assyrian/Chaldean/Syriac	94,075	+/-8,587
Australian	68,598	+/-5,399
Austrian	385,183	+/-12,057
Basque	39,205	+/-4,436
Belgian	223,267	+/-9,490

Source: 2010 ACS 1-year Estimates. Table B04001. FIRST ANCESTRY REPORTED

Microdata

```
RT,SERIALNO,ST,PUMA,RELP,AGEP,SEX,RAC1P,MAR,PINCP,POBP
P,168,2,300,0,56,2,2,5,81000,1,56,5,0,1,,22,0,1,0,0,81
P,168,2,300,2,30,1,2,5,8000,2,209,5,0,1,,20,0,2,0,0,80
P,168,2,300,2,18,2,2,5,500,2,88,5,0,2,14,14,0,3,0,0,50
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P,2029,2,101,0,67,2,4,2,26900,2,268,5,6000,1,,19,0,1,0
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P,2029,2,101,7,8,2,9,5,,2,220,,,2,5,5,,4,,,,,,,,2,98,
P,2693,2,200,0,66,2,9,2,30400,6,35,5,0,1,,16,0,1,0,158
P,3361,2,200,0,57,1,1,1,180000,38,59,5,178000,1,,21,0,
P,3361,2,200,1,58,2,1,1,110000,38,67,5,30000,1,,22,800
P,4005,2,200,0,27,2,1,5,42300,4,61,5,0,1,,21,0,1,0,0,4
P,4005,2,200,13,29,1,1,5,0,4,55,5,0,1,,19,0,2,0,0,0,,3
P,4076,2,101,0,45,1,1,3,75800,53,457,3,0,1,,19,0,1,0,0
```

Source: 2010 ACS 1-year PUMS file

Microdata in SAS

	Record type	Housing unit/GQ person serial number	State of current residence	Puma Code	PUMS Relationship to Reference Person	PUMS Age	Sex	Marital status	PUMS Persons income (signed)
1	P	168	02	00300	00	56	2	5	000081000
2	P	168	02	00300	02	30	1	5	000008000
3	P	168	02	00300	02	18	2	5	000000500
4	P	433	02	00200	16	39	1	1	000000800
5	P	1890	02	00400	00	31	2	1	000029700
6	P	1890	02	00400	12	23	1	5	000005000
7	P	2029	02	00101	00	67	2	2	000026900
8	P	2029	02	00101	02	41	2	5	000020200
9	P	2029	02	00101	07	13	1	5	.
10	P	2029	02	00101	07	08	2	5	.
11	P	2693	02	00200	00	66	2	2	000030400
12	P	3361	02	00200	00	57	1	1	000180000
13	P	3361	02	00200	01	58	2	1	000110000
14	P	4005	02	00200	00	27	2	5	000042300
15	P	4005	02	00200	13	29	1	5	000000000
16	P	4076	02	00101	00	45	1	3	000075800

Source: 2010 ACS 1-year PUMS file.

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- **Fundamentals of PUMS Data**
- Geography and the PUMS
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What are PUMS data?

Public Use	**anonymized, downloadable**
Microdata	**records of individual people**
Sample	**a representative sample of the population**

PUMS Overview

- PUMS sample is a subsample of ACS interviews, one percent of all US households
- PUMS is a "weighted" sample
  - Weighting variables must be used in analysis
- A set of two files - housing units and persons
- ACS produces 1-, 3-, and 5-year PUMS files
- Available as SAS files, CSV files, via DataFerrett and redistributors such as IPUMS

Why Use PUMS?

- Data needed for a tabulation or a specific universe not supported by standard ACS tables (e.g., population groups by single year of age)
- Statistical analysis required to understand relationships between economic, demographic or housing variables (e.g., correlation analysis)
- Can create new measures using multiple variables or other people in household (spouse's occupation, same-sex couples, number of kids)

ACS PUMS Availability

- Produced every year since 2000
- Person-level files includes about 250 variables
- Housing unit files include about 200 variables
- Includes people in housing units and group quarters
- Includes many useful constructed variables (e.g., poverty status, subfamily identification, etc.)
- Includes collapsed codes for some variables (e.g., race, Hispanic origin, ancestry, place of birth, industry, occupation, etc.)

	Person records in ACS PUMS (millions)	Person records in ACS complete data (millions)	Population represented (millions)
2001	1.2	1.2	285
2002	1.2	1.2	287
2003	1.2	1.2	290
2004	1.2	1.2	293
2005	2.9	4.5	296
2006	3.0	4.5	298
2007	3.0	4.5	301
2008	3.0	4.5	304
2009	3.0	4.5	307
2010	3.1	4.5	309
2011	3.1	5.0	312

Types of PUMS Files Released

- We release 3 new PUMS files every year
  - 1 year PUMS (example: 2011 1-year PUMS)
    - October
  - 3-year PUMS (example: 2009-2011 3-year PUMS)
    - December
  - 5-year PUMS (example: 2007-2011 5-year PUMS)
    - January
- Most documentation released one week prior to data

Modifications to Multiyear PUMS

- Multiyear PUMS have the same cases and geography as their component 1-year files
- How are multiyear PUMS different from single year?
  - Weights are produced using latest population estimate "vintages"
  - Coding schemes and dollar amounts are standardized
- Why use the multiyear PUMS files?
  - For studying small groups, where more cases are needed
  - When analysis is also making use of multiyear summary data

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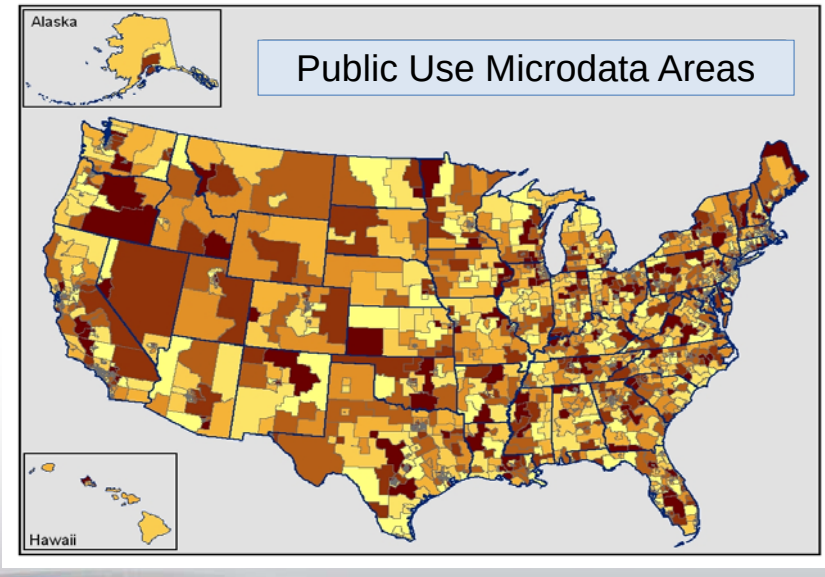
Limited Geographic Detail

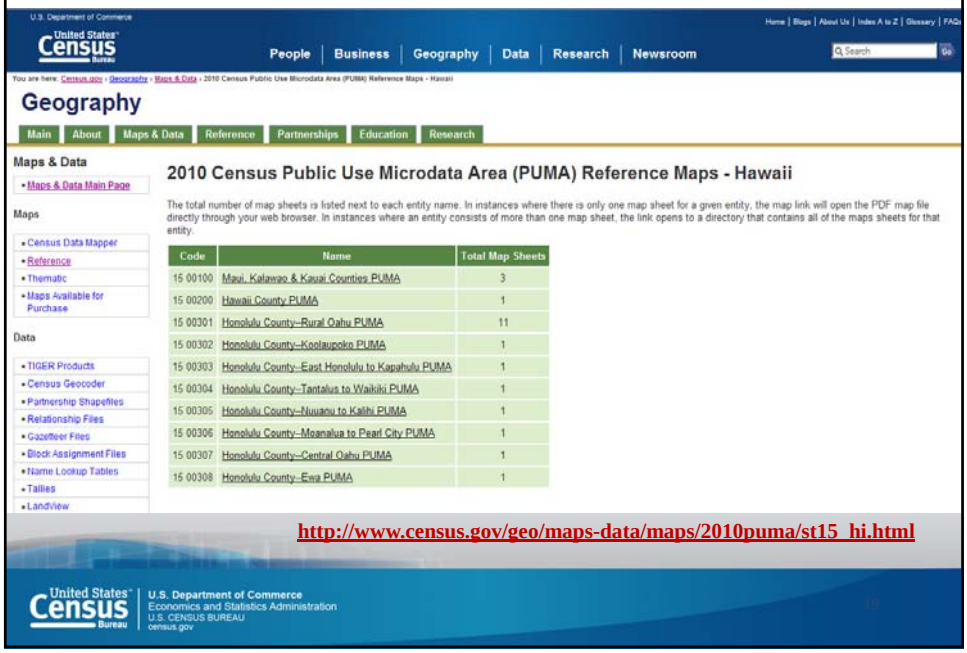
- Geographic identifiers are region, division, state, PUMA
- PUMAs can be used to identify most cities of 100,000+ and many metropolitan areas, but not all
  - Combinations of adjacent counties and census tracts within states
  - Also, divisions of geo areas (counties/cities)
- PUMS is not designed for statistical analysis of small geographic areas

Public Use Microdata Area (PUMA)

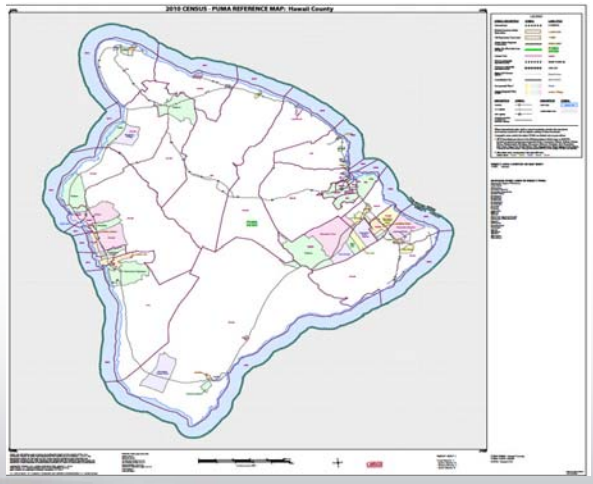
- Defined after each census by the states in coordination with the Census Bureau's Geography Division
  - Redefined PUMAs for 2012 PUMS files
  - Forthcoming multiyear files to have dual PUMA vintages
- Large enough to meet disclosure avoidance requirements
- An area of size 100,000 population or more
  - To determine population, housing, or land ratio visit the Missouri State Data Center site
- PUMAs are identified by a five-digit number, unique within each state



PUMA Maps



2010 Census – PUMA Reference Map
Hawaii County



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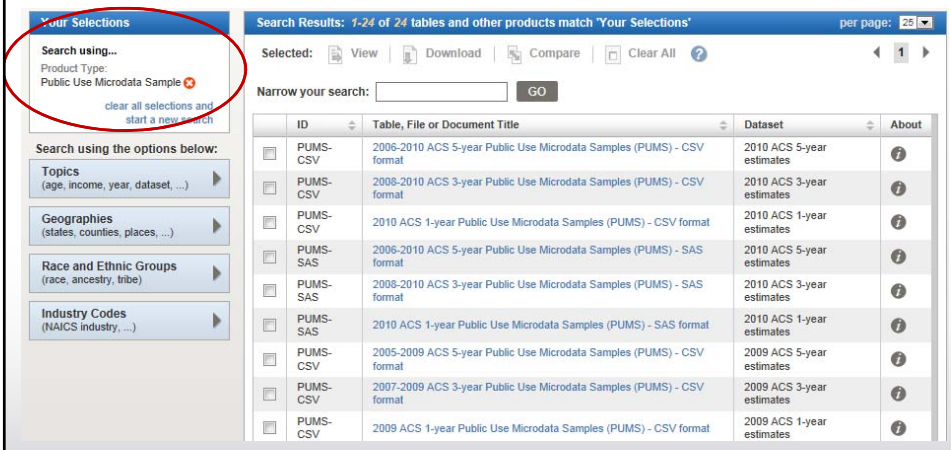
American FactFinder



American FactFinder (cont'd)

PUMS-CSV | 2010 ACS 1-year Public Use Microdata Samples (PUMS) - CSV format
2010 ACS 1-year estimates

United States Population Records	United States Housing Unit Records
Alabama Population Records	Alabama Housing Unit Records
Alaska Population Records	Alaska Housing Unit Records
Arizona Population Records	Arizona Housing Unit Records
Arkansas Population Records	Arkansas Housing Unit Records
California Population Records	California Housing Unit Records
Colorado Population Records	Colorado Housing Unit Records
Connecticut Population Records	Connecticut Housing Unit Records
Delaware Population Records	Delaware Housing Unit Records
District of Columbia Population Records	District of Columbia Housing Unit Records
Florida Population Records	Florida Housing Unit Records

American FactFinder (cont'd)

- Main benefit of accessing PUMS via AFF:
  - Convenient access if comfortable with AFF from regular use of summary tables

Census Bureau FTP Site

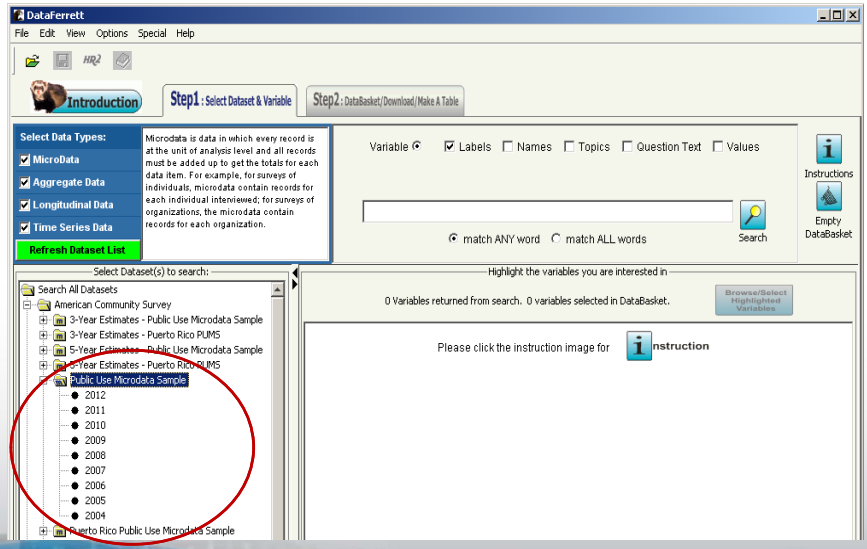

U.S. Department of Commerce
United States Census Bureau
People | Business | Geography | Data | Research

Name	Last modified	Size	Description
Parent Directory		-	
PUMS file naming convention.pdf	15-Oct-2012 12:18	36K	
csv hak.zip	15-Oct-2012 16:12	713K	
csv hal.zip	15-Oct-2012 16:12	4.1M	
csv har.zip	15-Oct-2012 16:12	2.5M	
csv haz.zip	15-Oct-2012 16:12	5.2M	
csv hca.zip	15-Oct-2012 16:13	25M	
csv hco.zip	15-Oct-2012 16:13	4.2M	
csv hct.zip	15-Oct-2012 16:13	2.9M	
csv hdc.zip	15-Oct-2012 16:13	706K	
csv hde.zip	15-Oct-2012 16:13	902K	
csv hfl.zip	15-Oct-2012 16:13	16M	
csv hga.zip	15-Oct-2012 16:13	7.6M	
csv hhi.zip	15-Oct-2012 16:13	1.1M	
csv hia.zip	15-Oct-2012 16:13	2.6M	
csv hid.zip	15-Oct-2012 16:13	1.4M	
csv hil.zip	15-Oct-2012 16:13	9.7M	
csv hin.zip	15-Oct-2012 16:13	5.3M	

Census Bureau FTP Site (cont'd)

- Main benefit of accessing PUMS via FTP:
  - *Complete* listing of files by year and state

DataFerrett



DataFerrett (cont'd)

- Main benefit of accessing PUMS via DF:
  - Menu driven system doesn't require knowledge of a stats package (i.e. SAS, SPSS, etc.)
  - Ability to download variables individually

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Analyzing PUMS Data

- National level files must be concatenated
  - See PUMS ReadMe
- Use SERIALNO variable to merge housing and person records to create complete file
  - See PUMS ReadMe

PUMS Weighting

- A weight defines how many persons and housing units one PUMS sample interview represents
- The PUMS weight is defined based on the ACS full sample weight and the sub-sampling interval
  - Complex weighting procedures described in the "Accuracy of the PUMS"

Types of PUMS Weights

- PUMS household weights (wgtp) must be used to produce housing unit estimates
- PUMS person weights (pwgtp) must be used to produce population estimates
- PUMS replicate weights (wgtp1 – wgtp80 and pwgtp1 – pwgtp80) are used for calculating standard errors

Estimating Variance with PUMS

- Problem: PUMS is not a simple random sample
  - Stratified samples with complex weighting
  - Sample drawn at household level (i.e., not a simple random sample of individuals)
- Solutions:
  - Use weighting variable and a “design factor”
  - Use weighting variable and 80 “replicate weights”
  - Both methods explained in “Accuracy of the PUMS”

Quick Check on Reliability

- Examine unweighted data table or frequencies of sample counts
- Be careful using estimates based on a small handful of cases
- To obtain more cases:
  - Use multiyear files
  - Combine geographic areas

Extreme Values are Masked

- PUMS files have top- and bottom-coding to avoid disclosure
- Affects:
  - Dollar-amount variables (all kinds of income, mortgage, rent, utilities, property taxes, home value, property insurance costs)
  - Number of rooms and bedrooms
  - Age
  - Travel time to work, hours worked

Operational Variable Availability

- Mode of data collection
  - Mail-in distinguished from telephone/personal interview
- Group quarters type
  - Institutional is distinguished from non-institutional
- Allocated data
  - Identified in “data quality flag” variables
- Month of data collection: not provided

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PUMS Documentation

- Subjects in the PUMS
- Code Lists
- PUMS Top Coded and Bottom Coded Values
- PUMS Estimates for User Verification
- Accuracy of the PUMS

http://www.census.gov/acs/www/data_documentation/pums_documentation/

PUMS Guidance

Compass Handbook on Using PUMS

http://www.census.gov/acs/www/guidance_for_data_users/handbooks/

- soup-to-nuts overview of getting and using the data

Training PPT on Using PUMS

http://www.census.gov/acs/www/guidance_for_data_users/training_presentations/

- overview of PUMS basics

DataFerrett

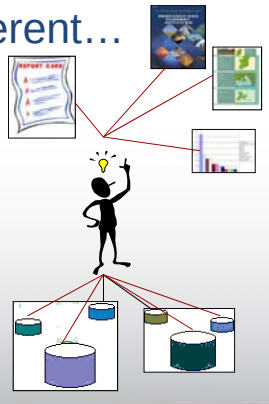
The Census Bureau's Breakthrough Technologies

- **TheDataWeb** is an internet based distributed data network of public and private databases--a "virtual" data warehouse.
- **DataFerrett** is a data mining, extraction, and tabulation tool that allows analysis of datasets available in TheDataWeb.

TheDataWeb Defined

An infrastructure for linking different databases into a single virtual data warehouse that supports different…

- vendors
- file structures
- data types
- file security models



DataFerrett Defined

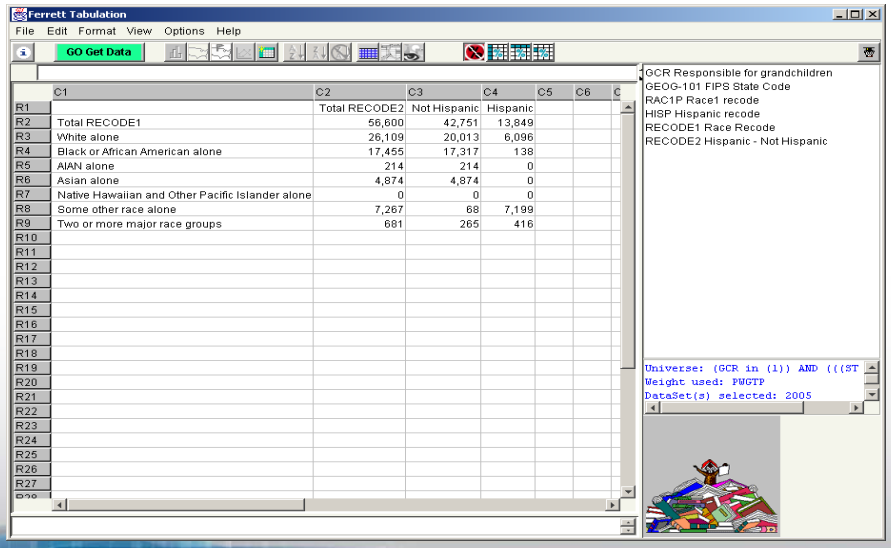
DataFerrett is an analytical interface to TheDataWeb. It allows a user to:

- Browse (search & discover) all of the datasets that are accessible via TheDataWeb
- Produce sophisticated analyses using tables, graphs, and maps
- Select variables from multiple datasets and integrate data on-the-fly

What DataFerrett Can Do

- Data manipulation through simple universe restrictions & variable recoding
- Pre-merges hierarchical microdata files
- Frequencies, cross- and multi-dimensional (nested) tables
- Spreadsheet formulas
- Maps & graphs
- Save as HTML, PDF & JPEG

Simple Cross-Tabulation



	C1	C2	C3	C4
R1		Total RECODE2	Not Hispanic	Hispanic
R2	Total RECODE1	56,600	42,751	13,849
R3	White alone	26,109	20,013	6,096
R4	Black or African American alone	17,455	17,317	138
R5	AIAN alone	214	214	0
R6	Asian alone	4,874	4,874	0
R7	Native Hawaiian and Other Pacific Islander alone	0	0	0
R8	Some other race alone	7,267	68	7,199
R9	Two or more major race groups	681	265	416

United States Census Bureau | U.S. Department of Commerce, Economics and Statistics Administration, U.S. CENSUS BUREAU, census.gov

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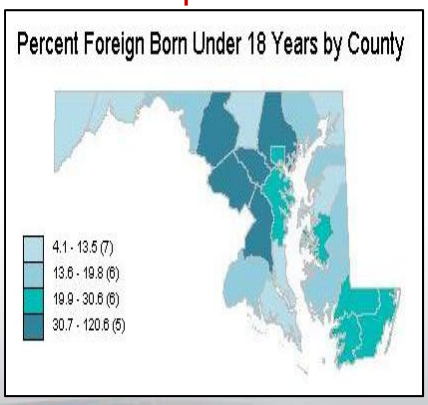
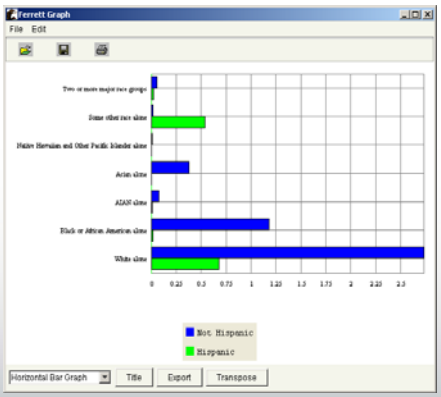
Data Visualization

Highlight spreadsheet rows or columns to create:

Maps



Graphs



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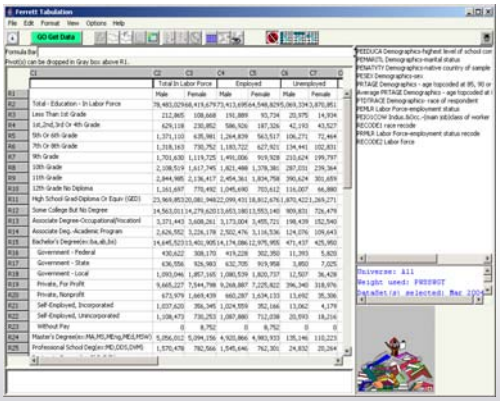
Powerful Tabulation Capabilities

Simple table layout that supports:



- Flexible design
- Frequencies and trends
- Spreadsheet math for robust analysis
- Complex nesting
- Hide columns/rows
- Applies weighting variables
- Fast results using large datasets

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DataFerrett Users

- Intended for:
  - Users who cannot get what they need from pre-defined data tables
  - Users needing quick, yet sophisticated tabulations
  - Users that want to “play” with the data

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What We're Working On

- Calculating variances on-the-fly for microdata tabulations
- Calculating margins of error for custom summations of aggregate data
- Integrating Google maps with DataFerrett thematic maps

Supports Multiple Data Types

(Needed for data integration)

Microdata: Individual transaction records, or survey response records. Data are often in multiple files (e.g. Household, Person, Geography files).

Aggregate (Macro) Data: Data that has already been tabulated. You must pick from variables or dimensions already tabulated (i.e. geography).

Timeseries: Data that can be tabulated by time periods from a cell in a table (poverty rate, or unemployment rate over time).

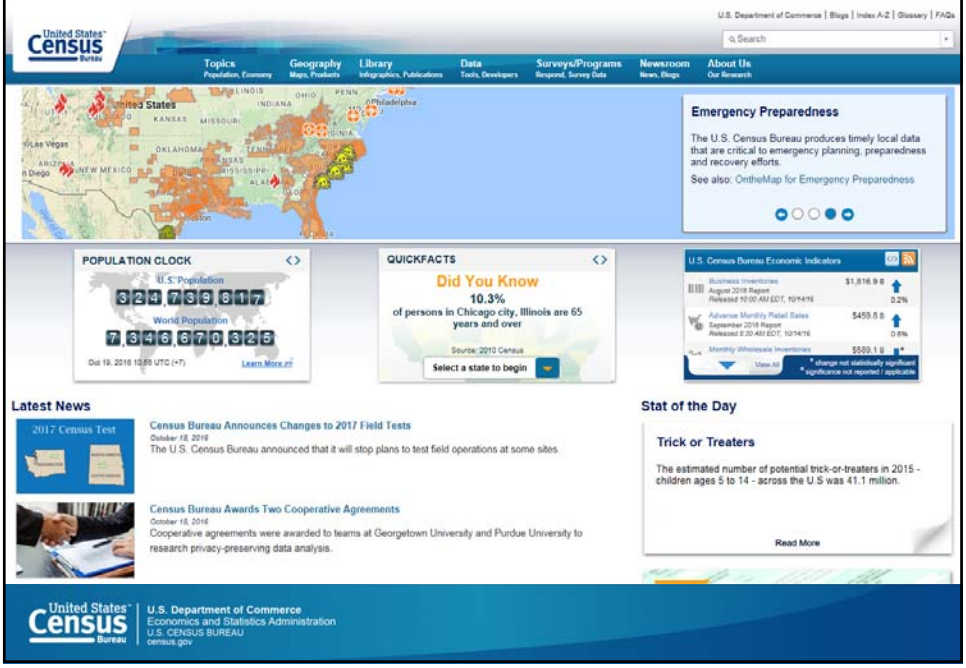
Longitudinal Data: Follows people over time (microdata).

Exercise 1

Accessing:

- 2012 PUMS
- Foreign Born and Year of Entry
  - Create a Recode for Year of Entry
- All PUMAS within Hawaii
  - Create a Table
  - Create a Formula

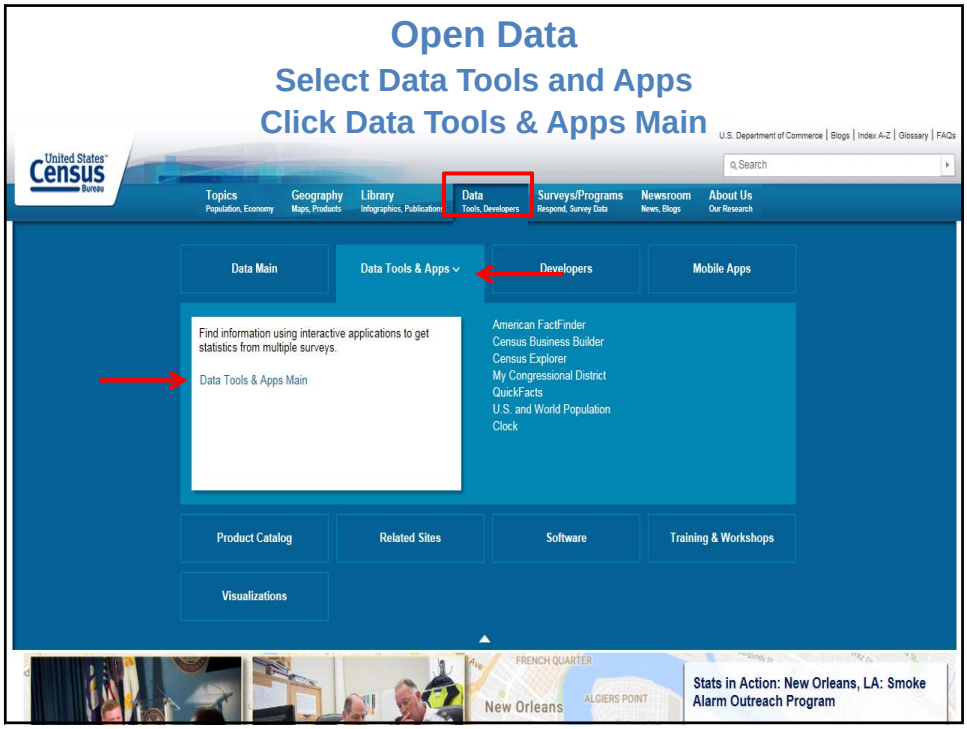
www.census.gov



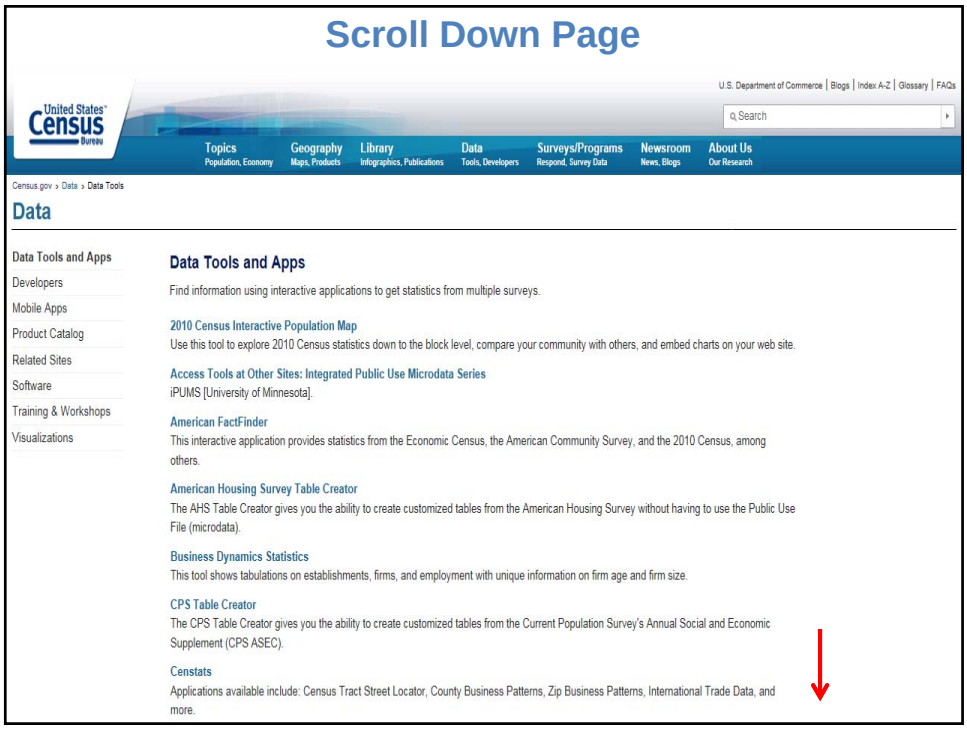
Open Data

Select Data Tools and Apps

Click Data Tools & Apps Main



Scroll Down Page



Click on DataFerrett

Census 2000 EEO Data Tool
Select levels of geography based on residence or workplace. The estimates present information for various occupation groupings by race and ethnicity and sex.

Census Business Builder
Census Business Builder offers small business owners selected Census Bureau & other statistics to guide their research for opening or expanding their business.

Census Explorer
Make new discoveries about your neighborhood through the power of statistics with the U.S. Census Bureau's newest mapping tool.

Census Flows Mapper
The Census Flows Mapper is a web mapping application intended to provide users with a simple interface to view, save and print migration flows maps.

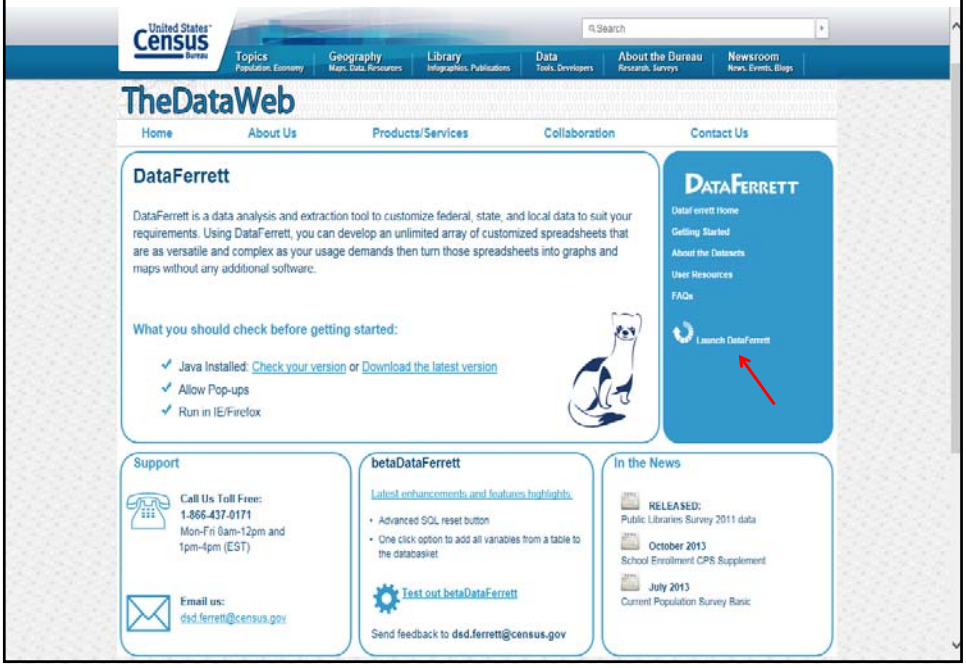
DataFerrett
This tool is the analytical interface to TheDataWeb and allows users to create custom tables and data visualizatons, such as graphs and thematic maps.

Direct File Access: Census 2010 datasets
Download datasets.

Direct File Access: Census OUTGOING File Directory (HTTP)
Pickup files from Census Employees.

United States Census Bureau | U.S. Department of Commerce, Economics and Statistics Administration, U.S. CENSUS BUREAU, census.gov

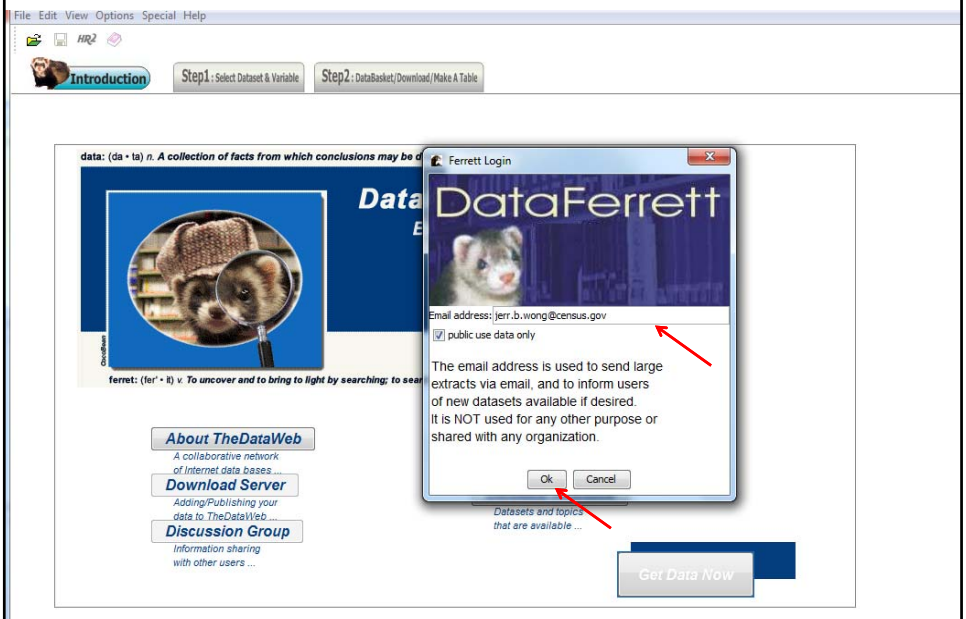
Launch Data Ferrett



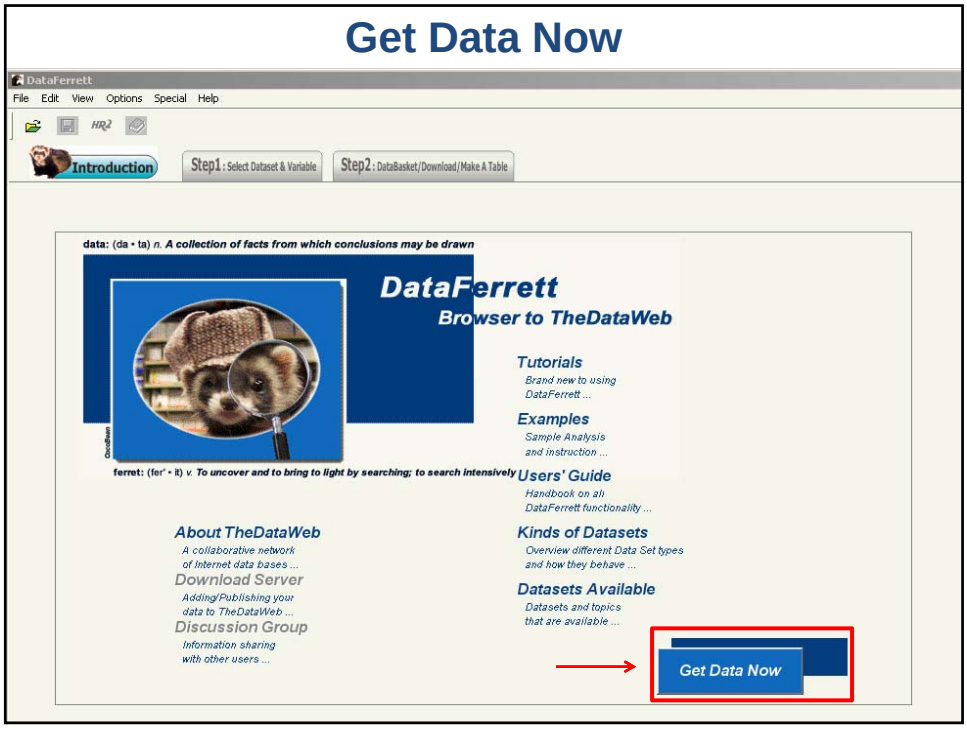
CAUTION

Do Not Navigate Away or Close This Window While DataFerret is Loading

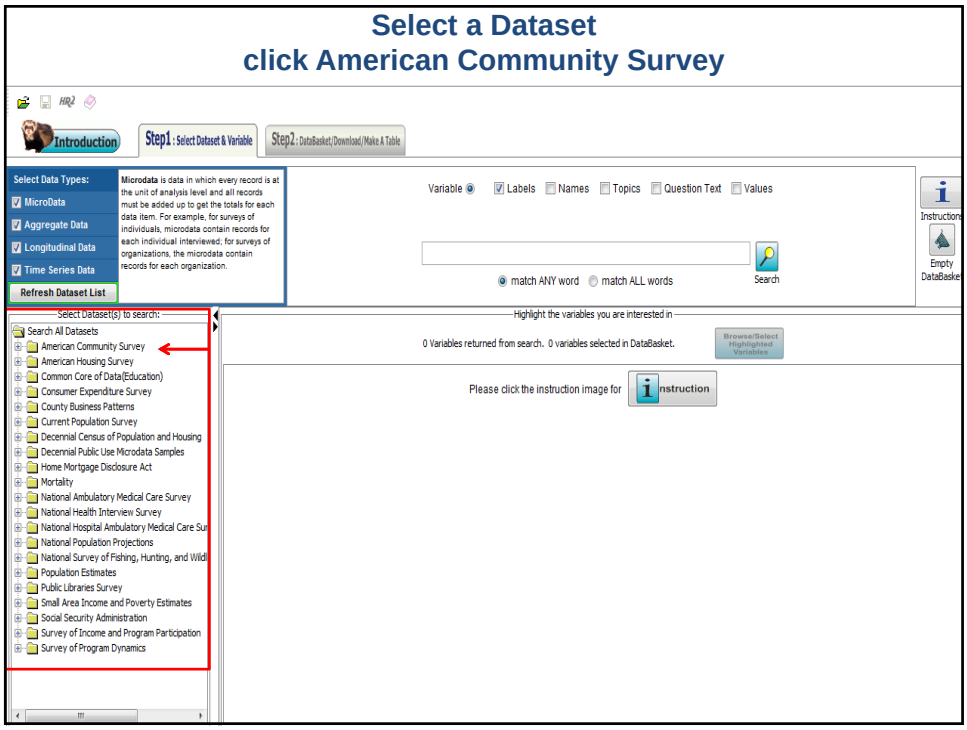
Enter Your Email Address
Click Ok

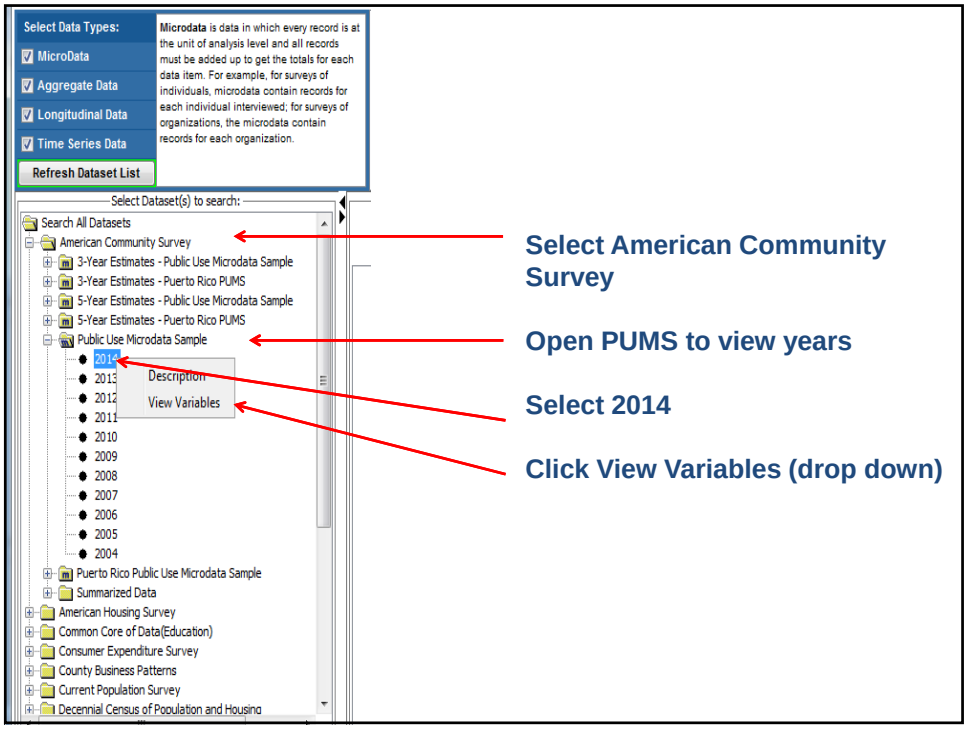


Get Data Now

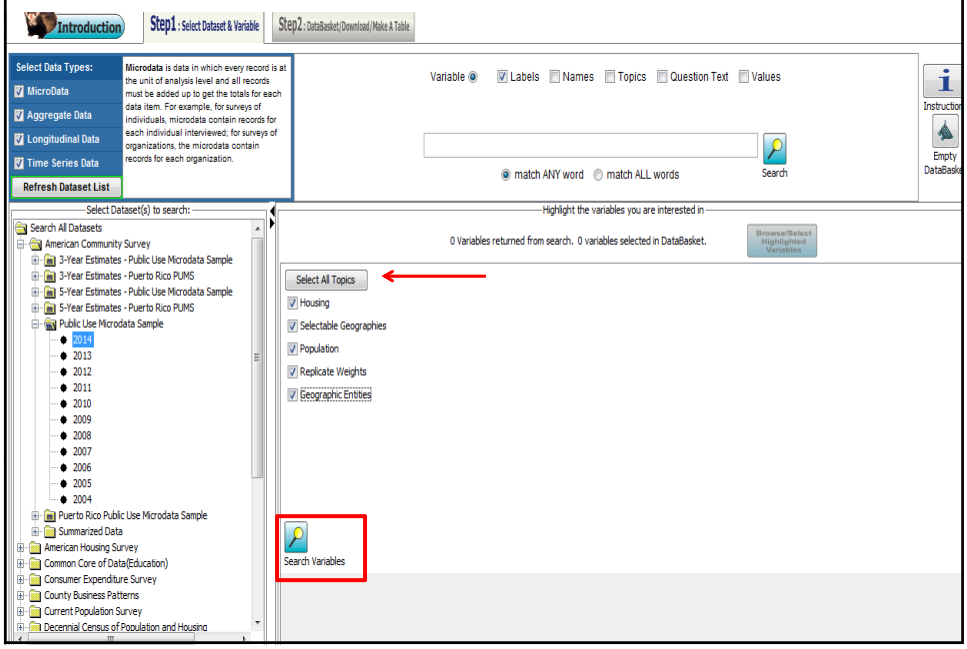


Select a Dataset
click American Community Survey



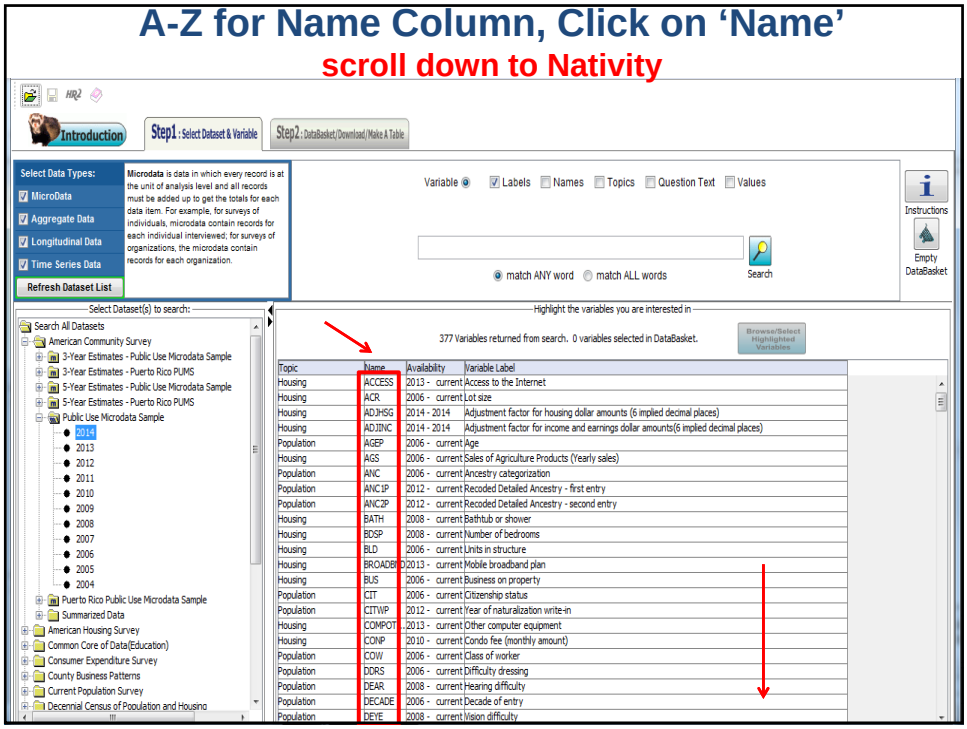


Click Select All Topics and click Search Variables

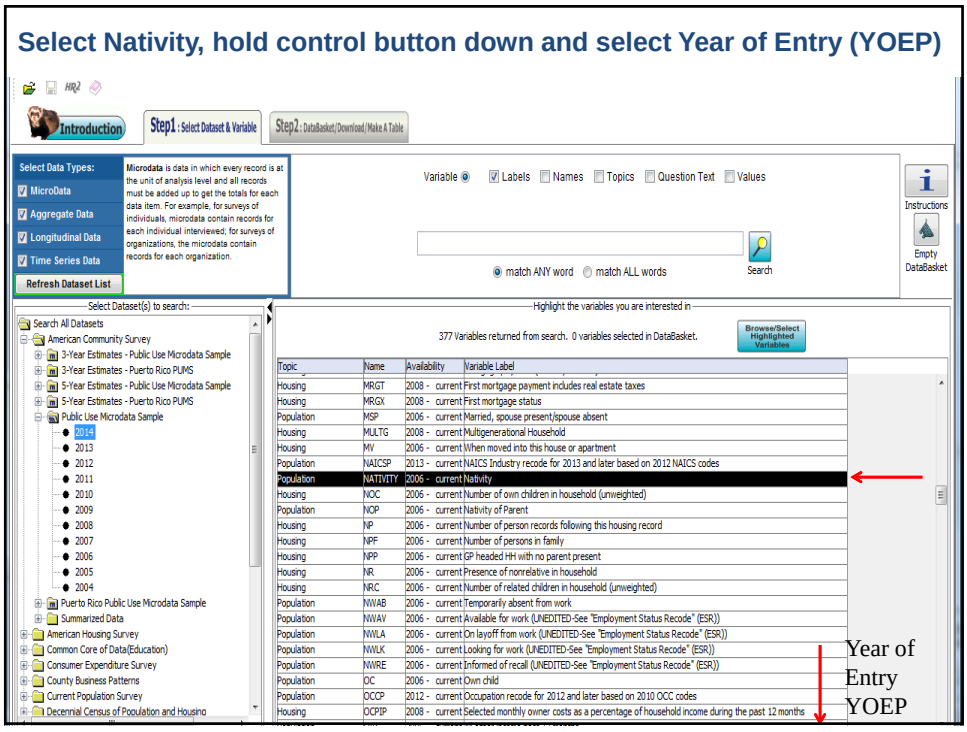


A-Z for Name Column, Click on 'Name'

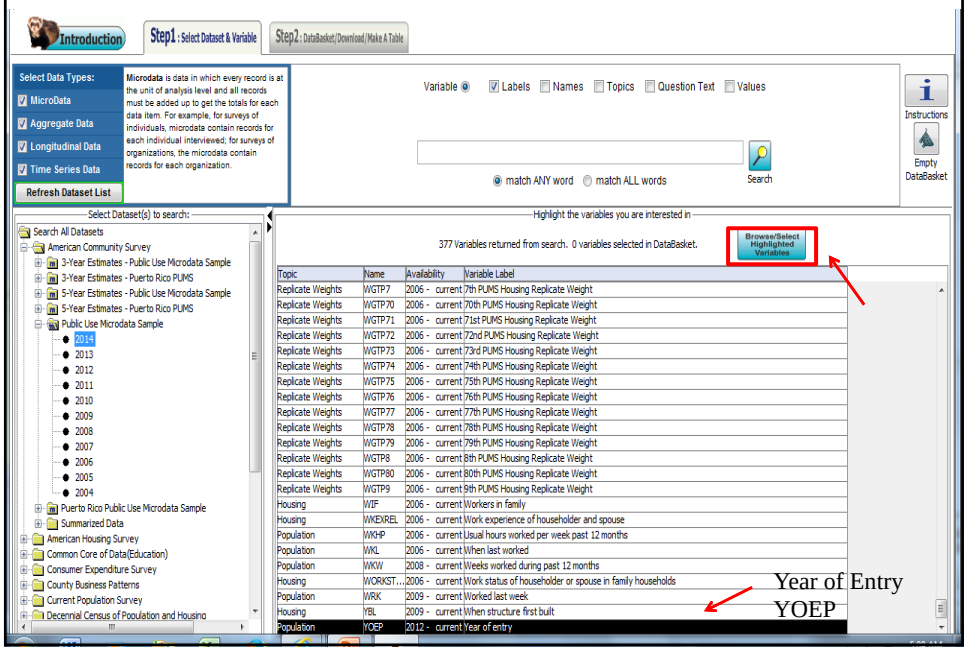
scroll down to Nativity



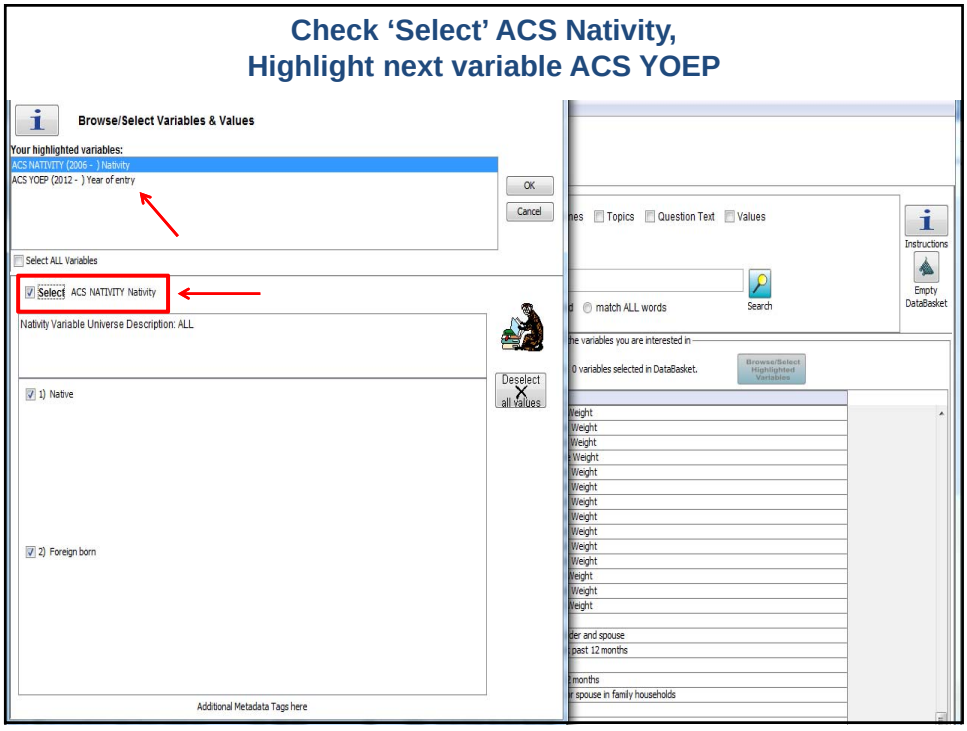
Select Nativity, hold control button down and select Year of Entry (YOEP)



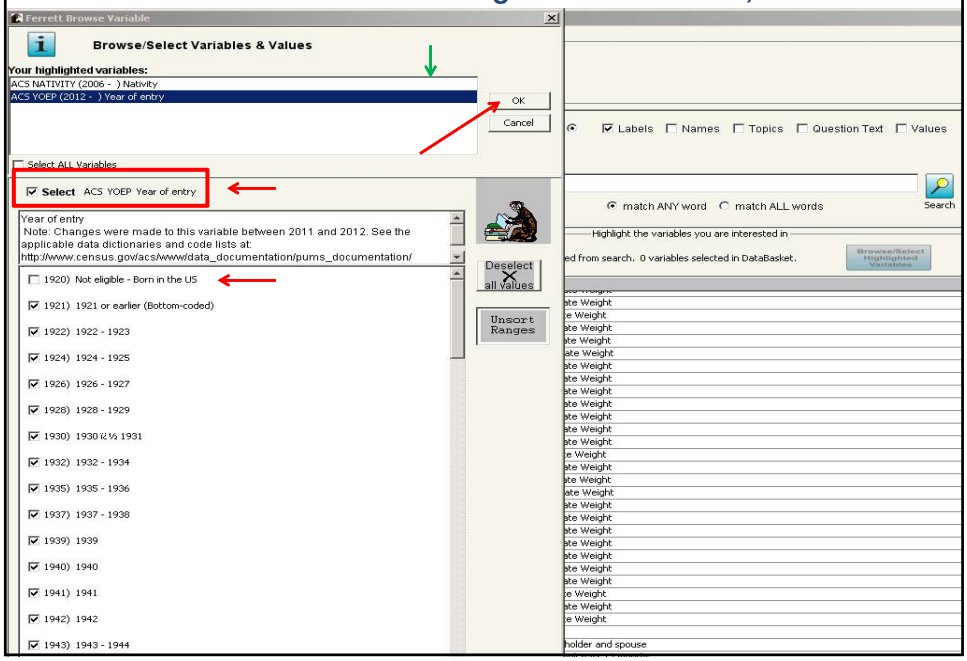
Select Nativity, hold control button down and select Year of Entry (YOEP) and click /Browse/Select Highlighted Variables (blue) Button



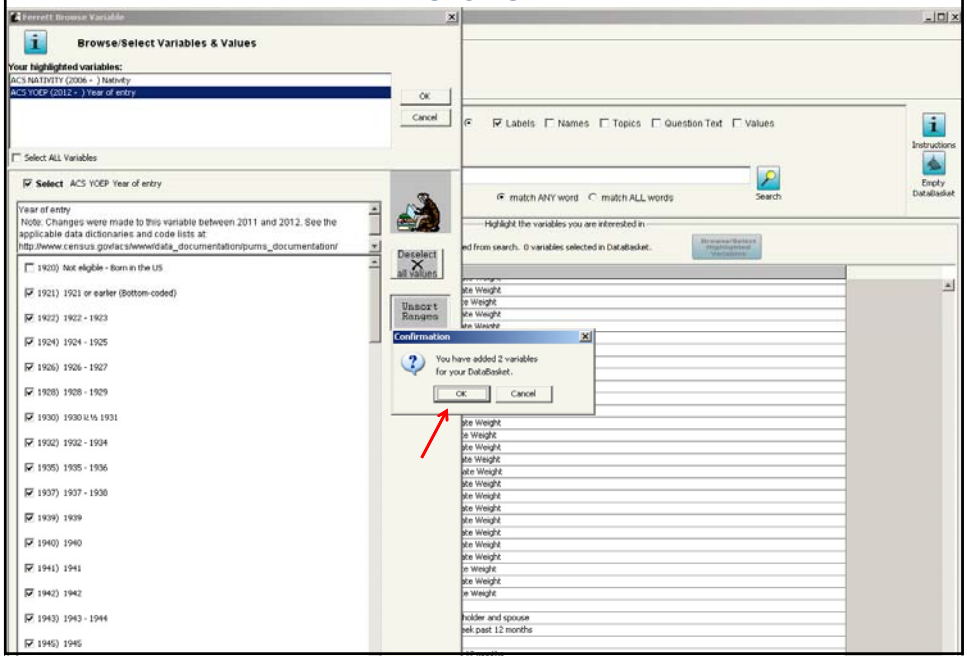
Check 'Select' ACS Nativity, Highlight next variable ACS YOEP



Check 'Select' ACS YOEP
Deselect box for 1920 Not eligible – Born in US, Click OK



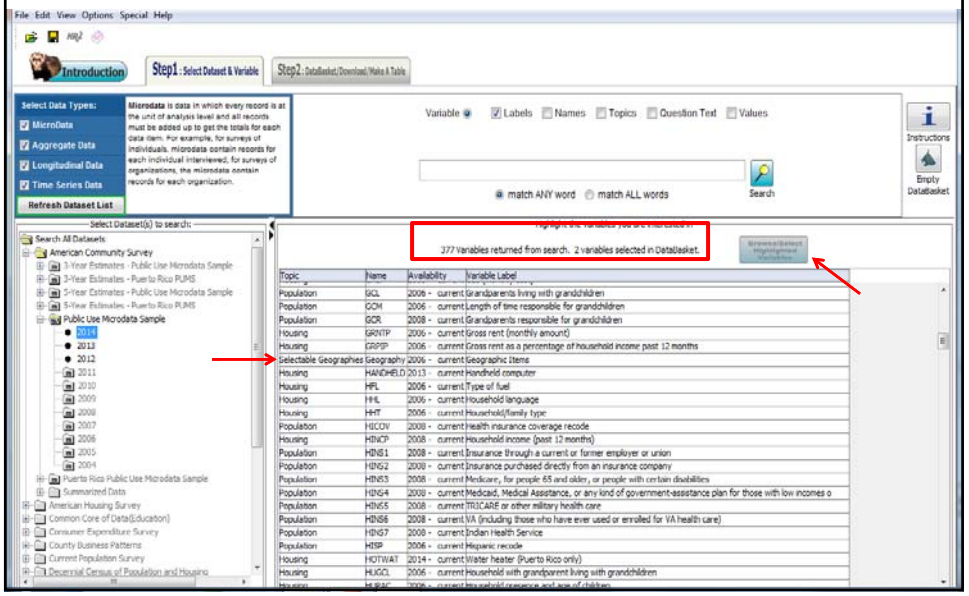
You have added 2 variables for your DataBasket
Click OK



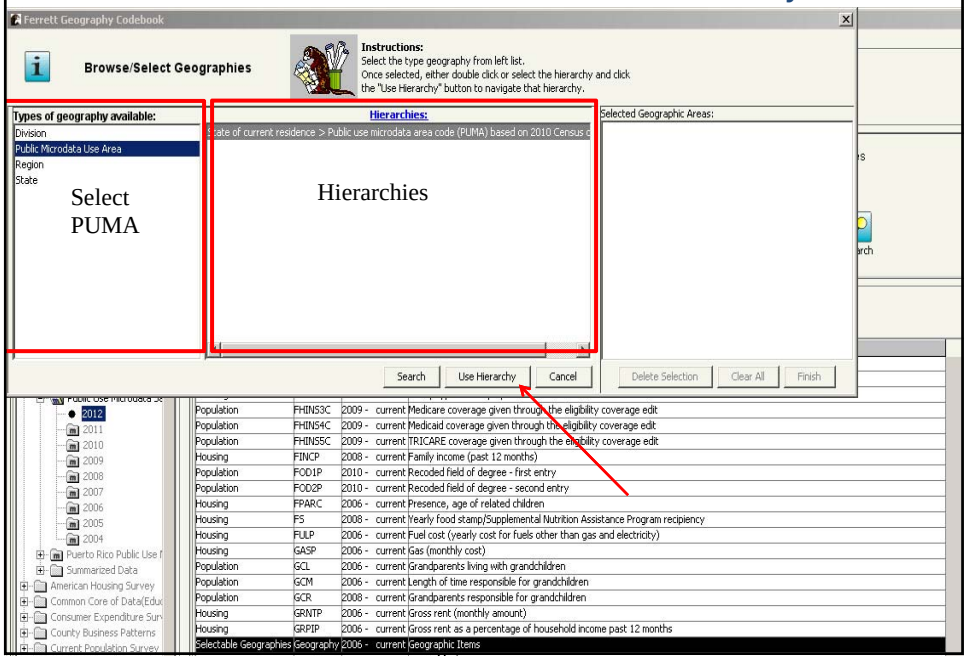
Note: 2 Variables selected in DataBasket

Double Click to Select Geography Variable

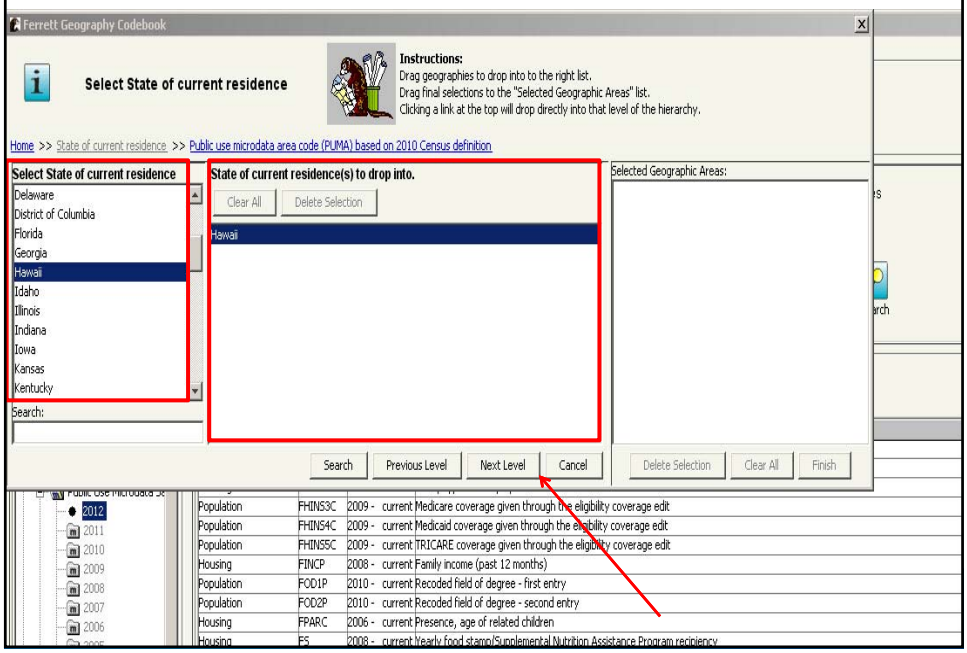
Click Browse/Select Highlighted Variable Button



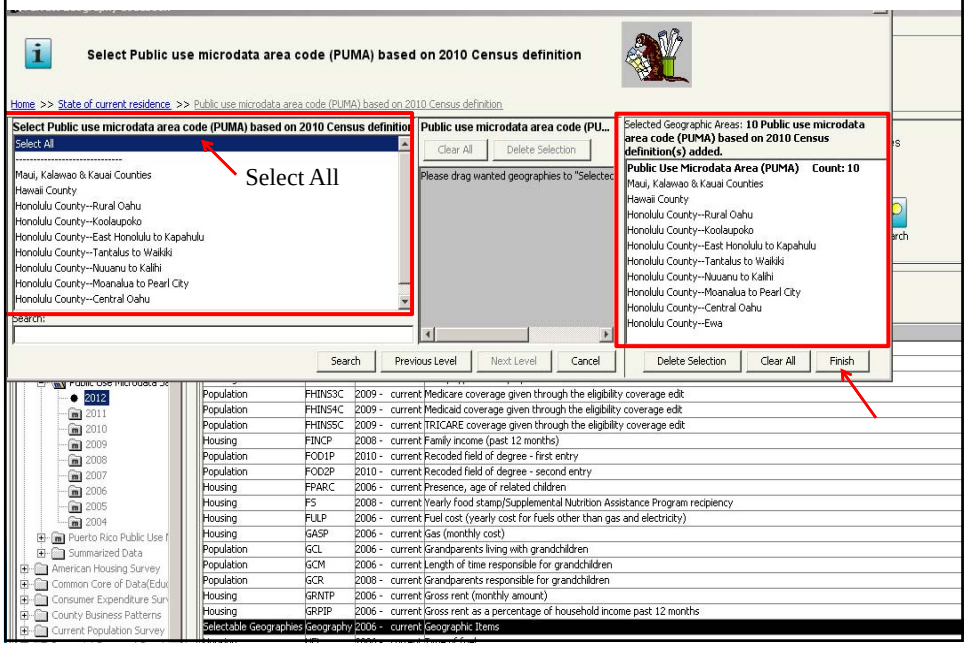
Select PUMA from types of geos available, highlight the PUMA code in the Hierarchies section and click 'Use Hierarchy'



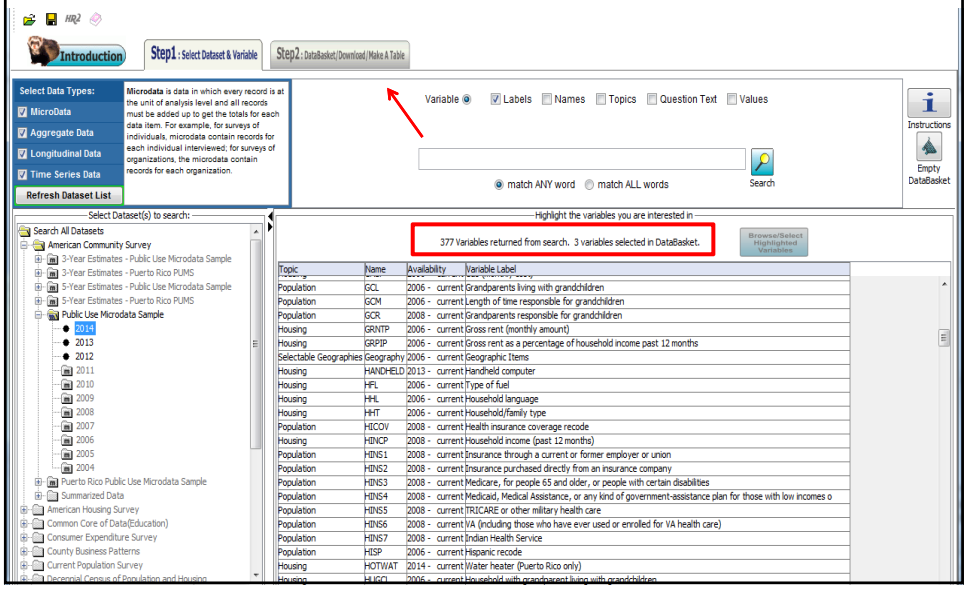
Double click Hawaii from 'Select State of current residence', Highlight Hawaii in middle box and click 'Next Level'



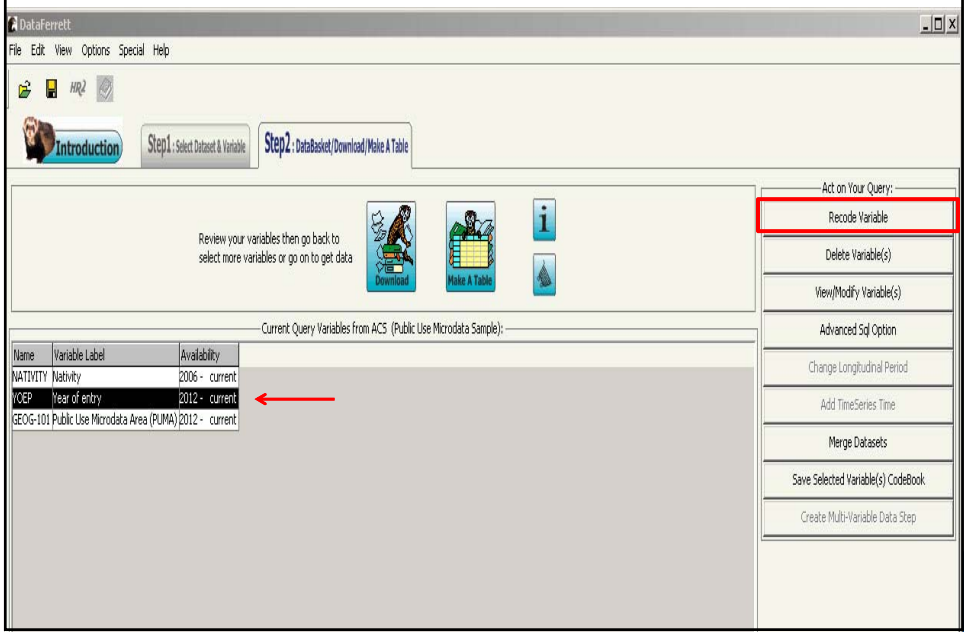
Note: ALL PUMAs in Hawaii are Listed. Double Click Select All. They will be added to the Selected Geographies Areas (right side box), Click Finish

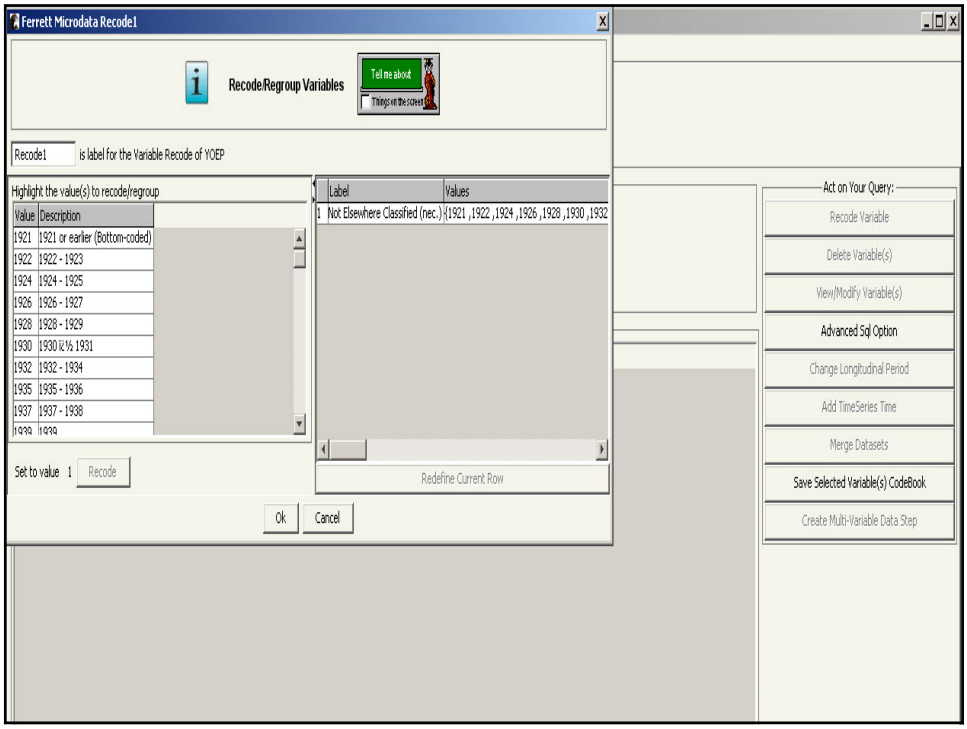


Note: There are 3 variables in DataBasket
We will need to create a new variable (recode) to define just 2 categories of the year of entry – 1) before 2000 and 2) in 2000 or later.
Click on Step2: DataBasket/Download/Make A Table

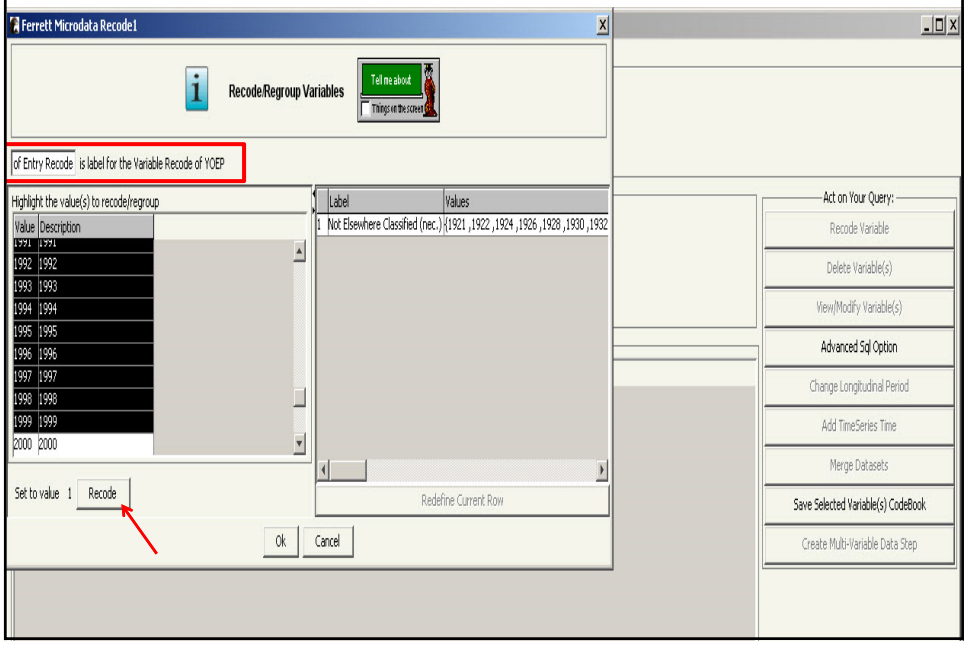


To recode Year of Entry, highlight YOEP and Click 'Recode Variable' from right side of screen



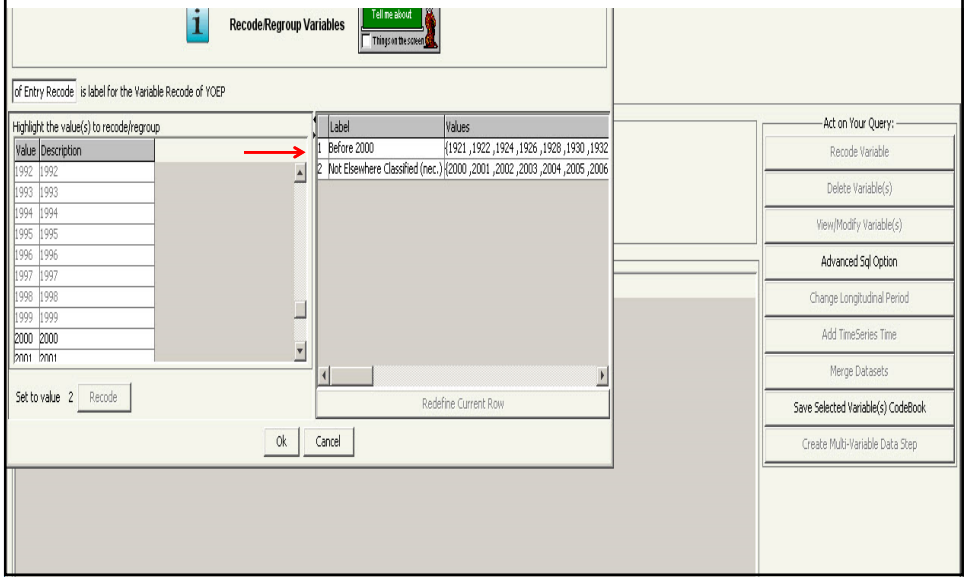


Rename Recode1 to 'Year of Entry Recode' and highlight all of the categories from 1921 to 1999 and click Recode button below

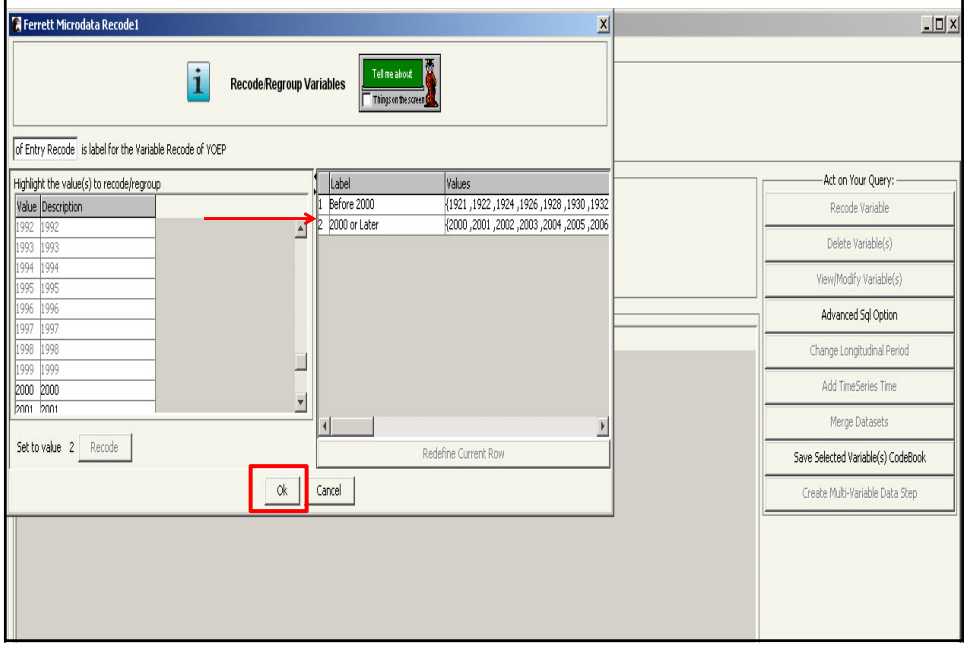


Note: there are two categories for the new recoded variable: RecodeValue1 and Not Elsewhere Classified

double click on 'RecodeValue_1' to change name to 'Before 2000' (Make sure to hit the Enter Key).

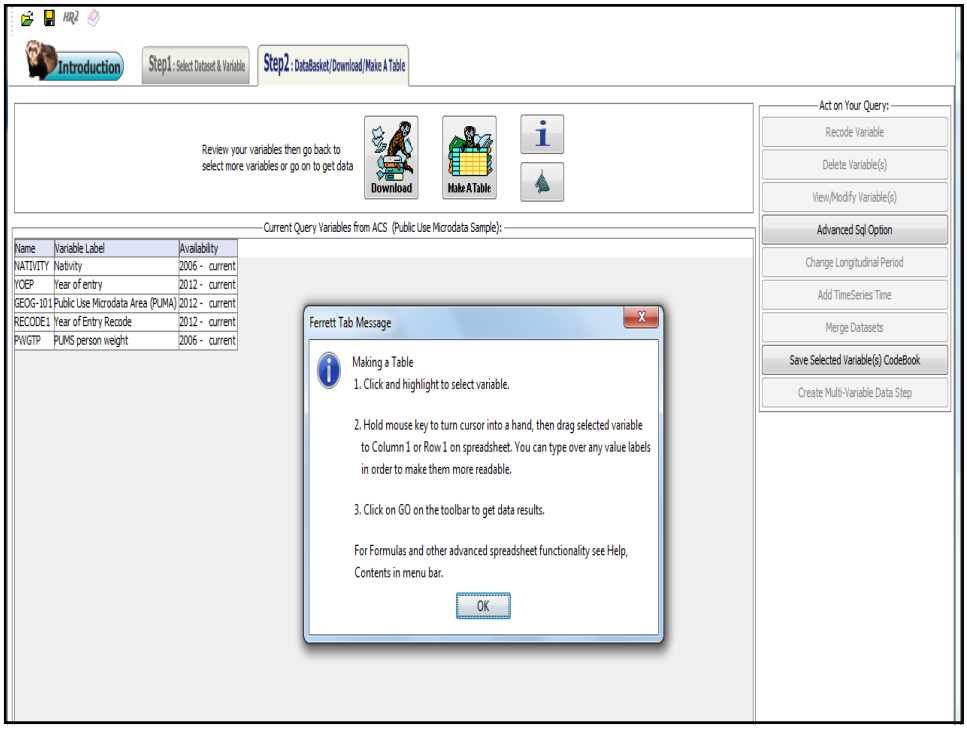


Double Click on 'Not Elsewhere Classified' to change name to '2000 or Later' (Make sure to hit the Enter Key). Finish by Clicking OK

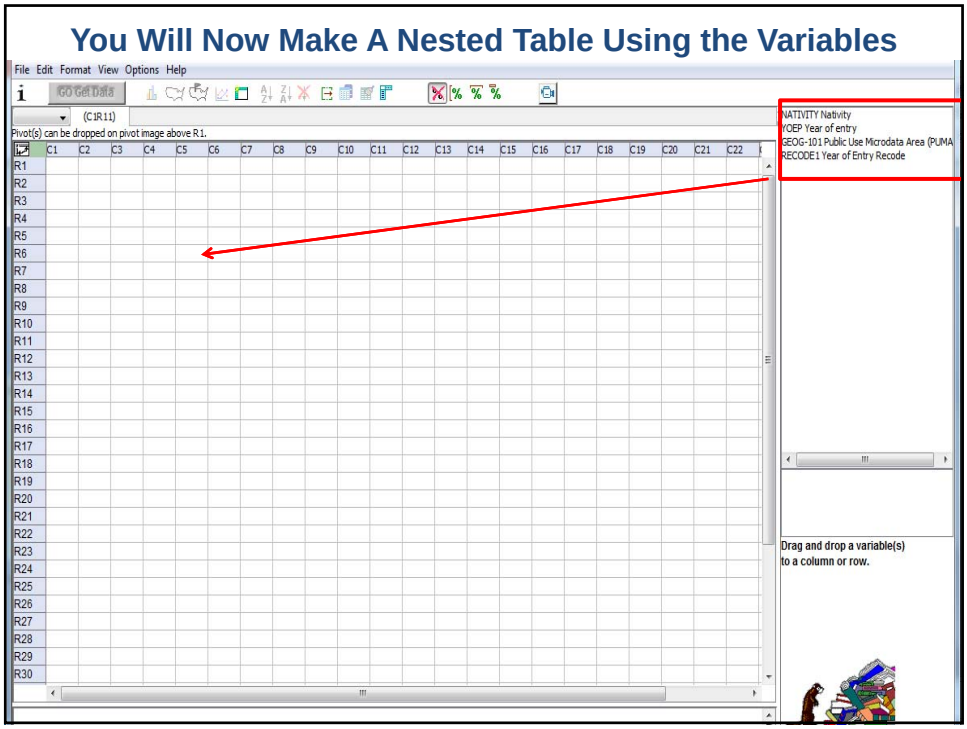


Note: "Year of Entry Recode" now listed

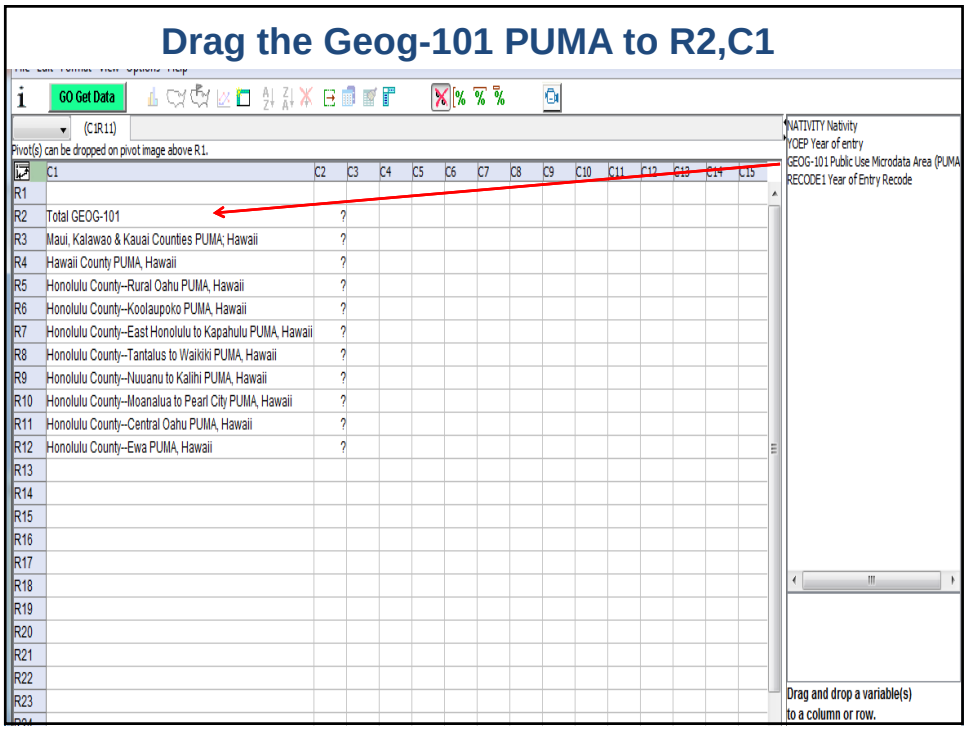
Click Make a Table



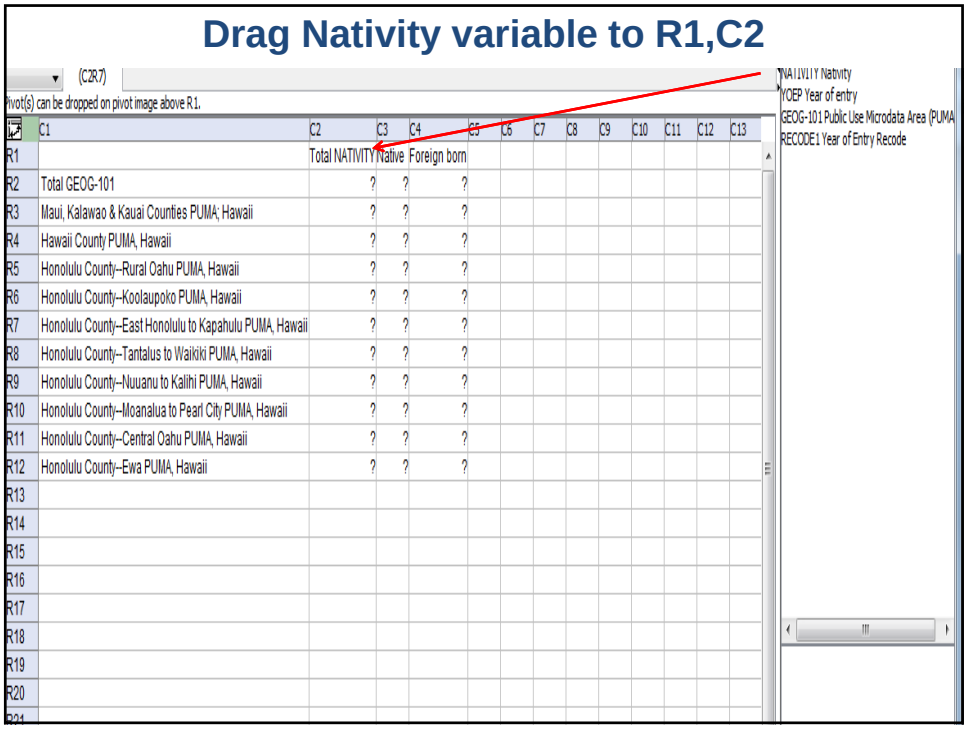
You Will Now Make A Nested Table Using the Variables



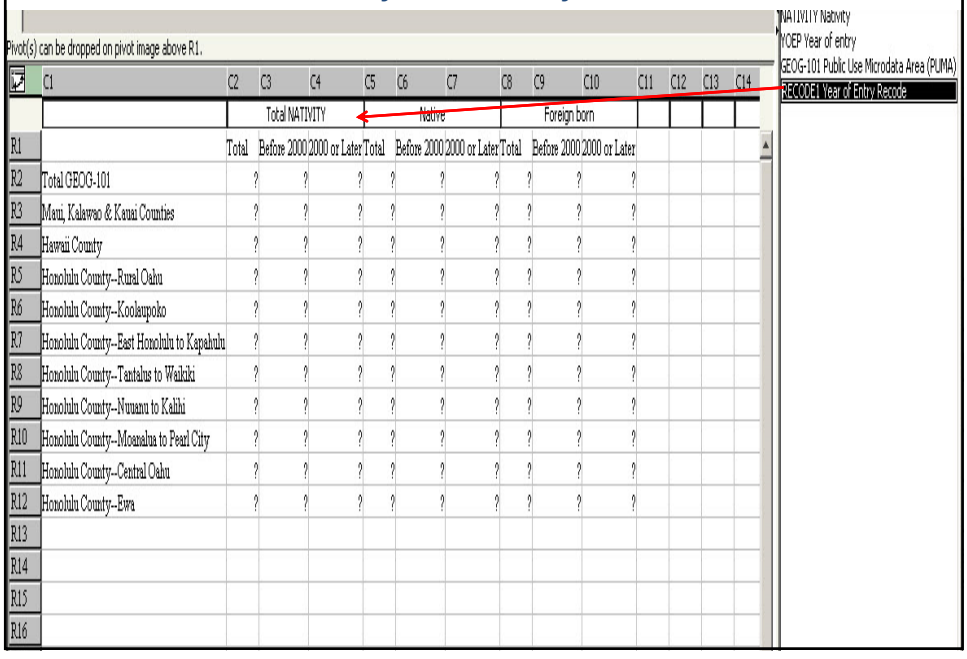
Drag the Geog-101 PUMA to R2,C1



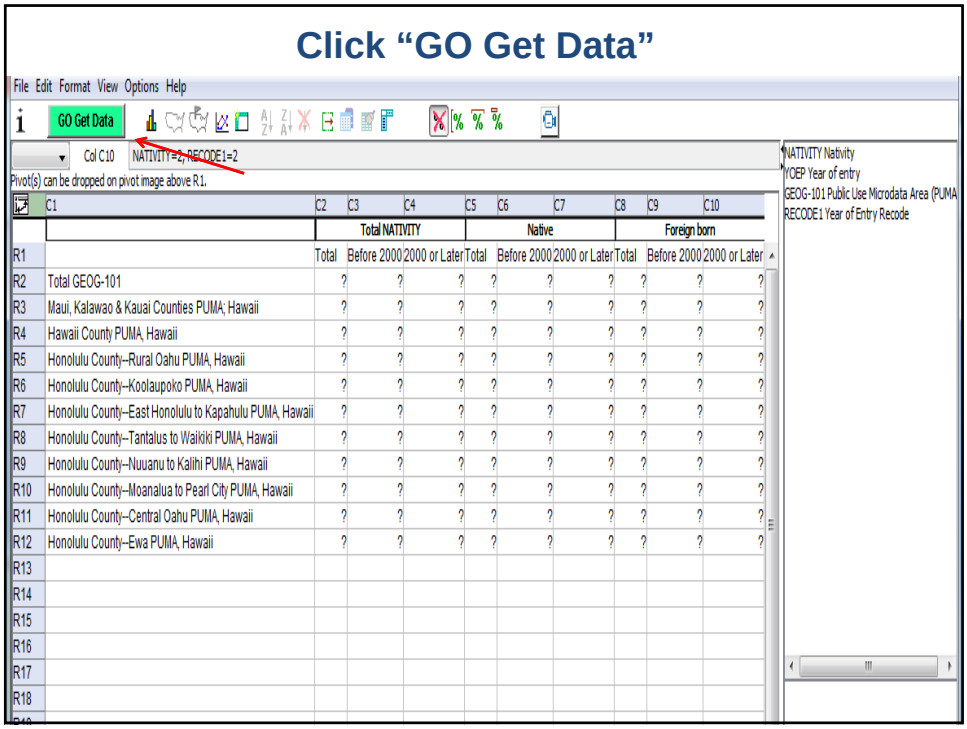
Drag Nativity variable to R1,C2



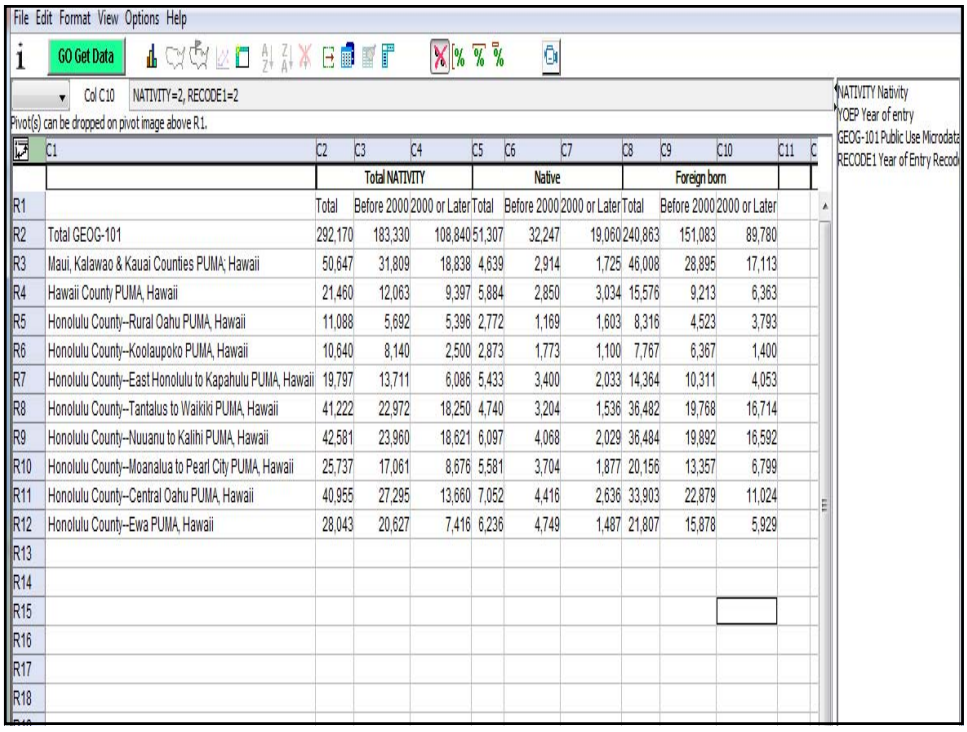
Nest the "Year of Entry Recode" variable on the columns by dropping onto any of the nativity Labels



Click “GO Get Data”



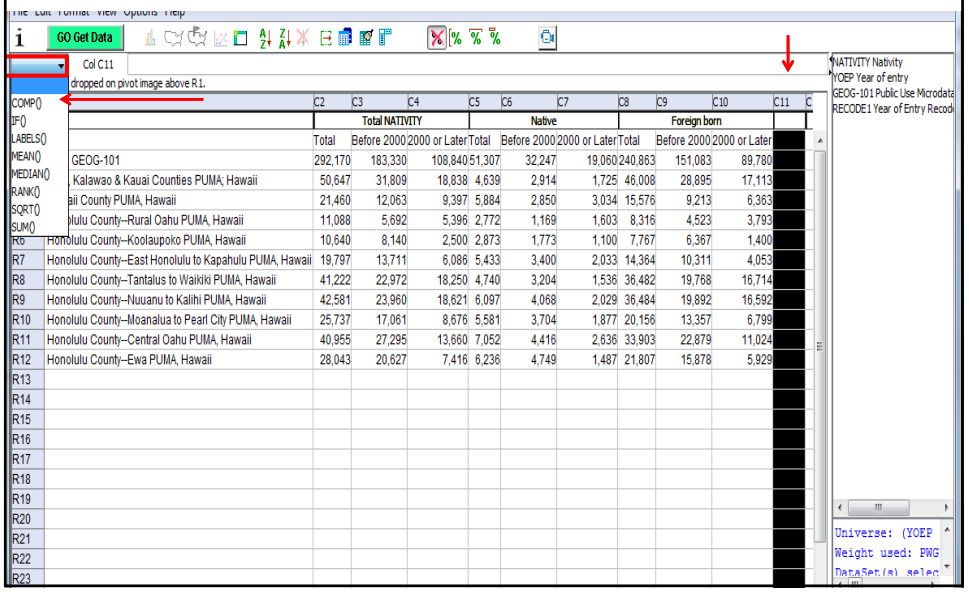
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
		Total NATIVITY			Native			Foreign born		
R1		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later
R2	Total GEOG-101	?	?	?	?	?	?	?	?	?
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	?	?	?	?	?	?	?	?	?
R4	Hawaii County PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R5	Honolulu County--Rural Oahu PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R6	Honolulu County--Koolaupoko PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R11	Honolulu County--Central Oahu PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R12	Honolulu County--Ewa PUMA, Hawaii	?	?	?	?	?	?	?	?	?
R13										
R14										
R15										
R16										
R17										
R18										



	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C
		Total NATIVITY			Native			Foreign born				
R1		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later		
R2	Total GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780		
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113		
R4	Hawaii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363		
R5	Honolulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793		
R6	Honolulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400		
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053		
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714		
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592		
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799		
R11	Honolulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024		
R12	Honolulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929		
R13												
R14												
R15												
R16												
R17												
R18												

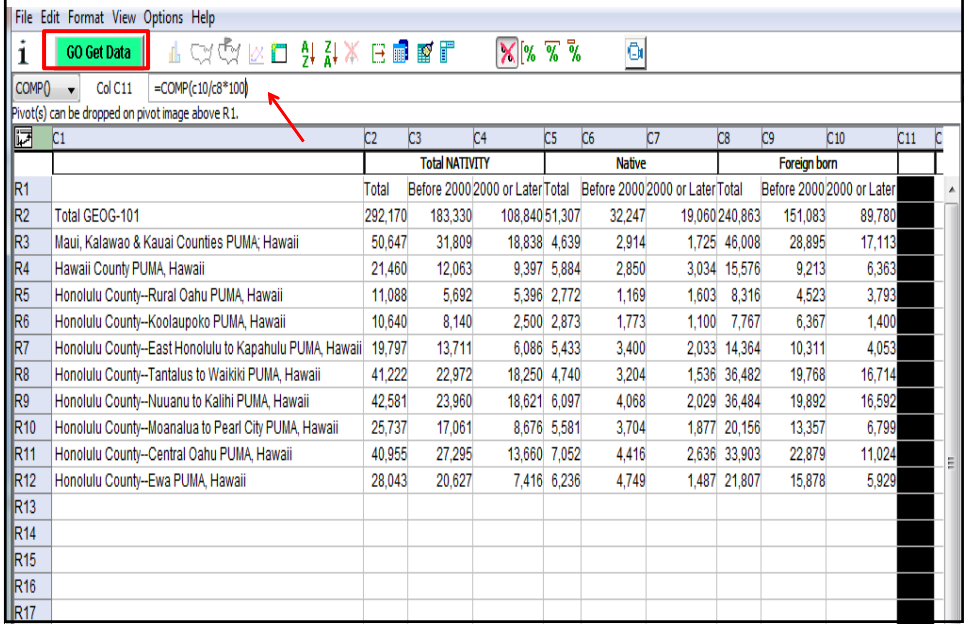
We will now calculate the percentage of foreign born 2000 or later

To Create a Formula: Click in the Gray column header of the next empty column - C11
This will activate the formula box
Select COMP( )



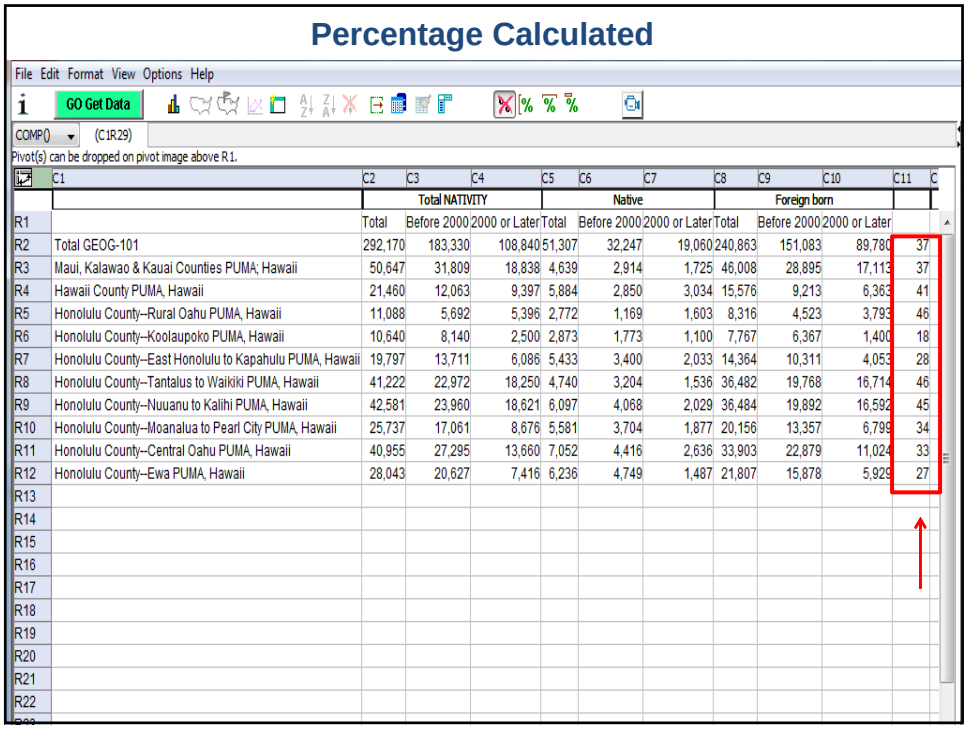
		Total NATIVITY			Native			Foreign born		
		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later
R2	Total GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113
R4	Hawaii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363
R5	Honolulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793
R6	Honolulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799
R11	Honolulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024
R12	Honolulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929

Enter Formula: c10/c8*100
Hit the Enter key or GO Get Data'



		Total NATIVITY			Native			Foreign born		
		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later
R2	Total GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113
R4	Hawaii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363
R5	Honolulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793
R6	Honolulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799
R11	Honolulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024
R12	Honolulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929

Percentage Calculated



File Edit Format View Options Help

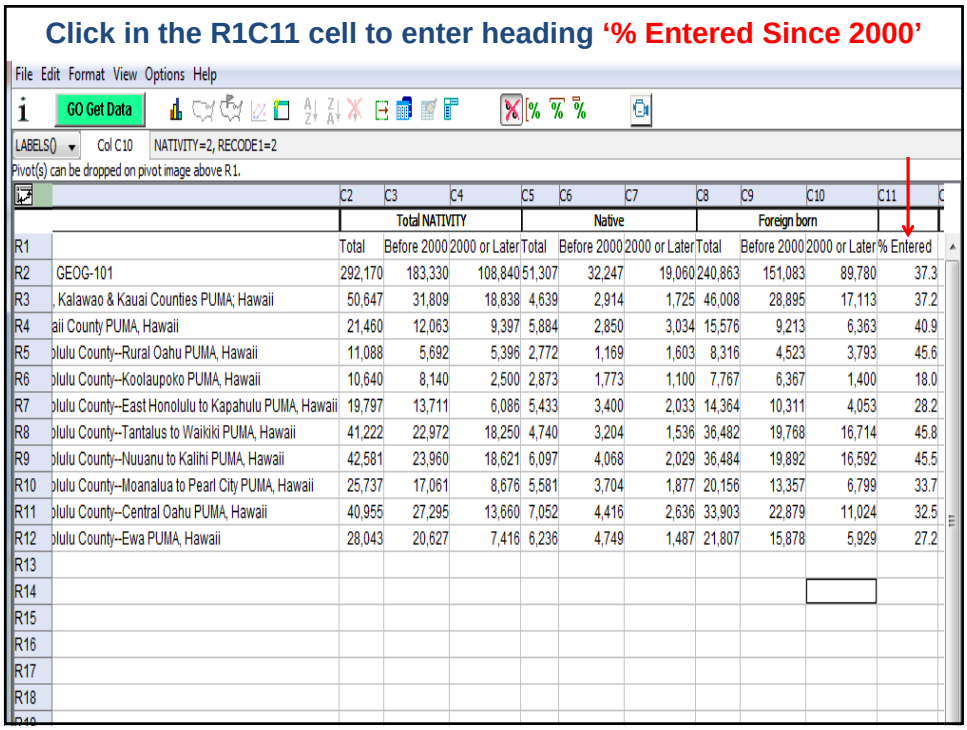
GO Get Data

COMP() (C1R29)

Pivot(s) can be dropped on pivot image above R1.

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C
		Total NATIVITY			Native			Foreign born				
R1		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later		
R2	Total GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780	37	
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113	37	
R4	Hawaii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363	41	
R5	Honolulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793	46	
R6	Honolulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400	18	
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053	28	
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714	46	
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592	45	
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799	34	
R11	Honolulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024	33	
R12	Honolulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929	27	
R13												
R14												
R15												
R16												
R17												
R18												
R19												
R20												
R21												
R22												

Click in the R1C11 cell to enter heading '% Entered Since 2000'



File Edit Format View Options Help

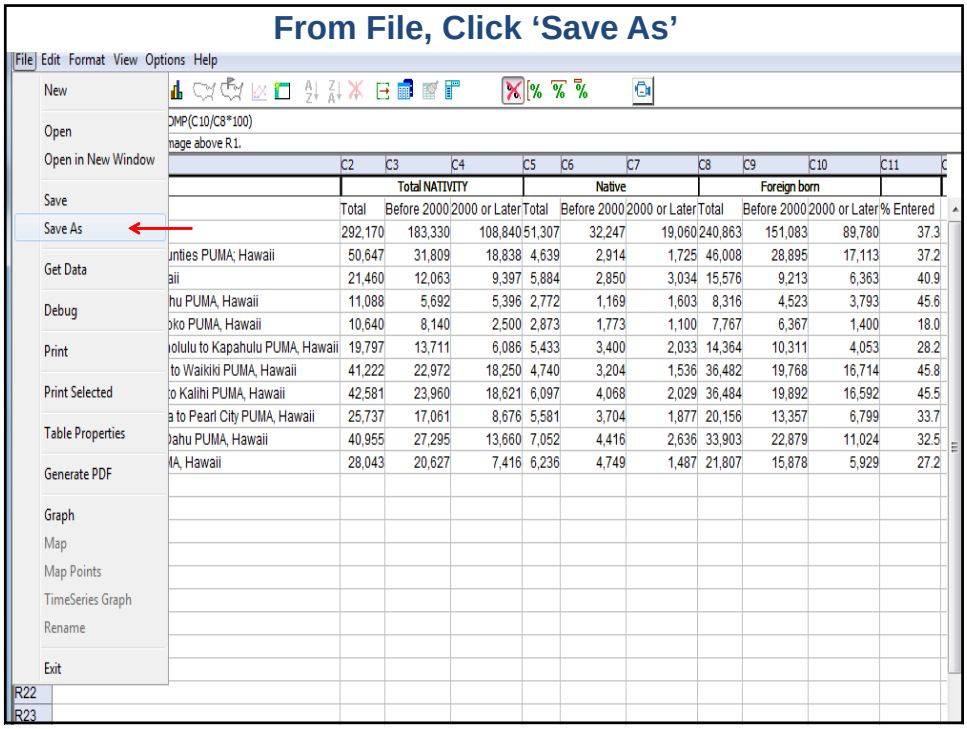
GO Get Data

LABELS() Col C10 NATIVITY=2, RECODE1=2

Pivot(s) can be dropped on pivot image above R1.

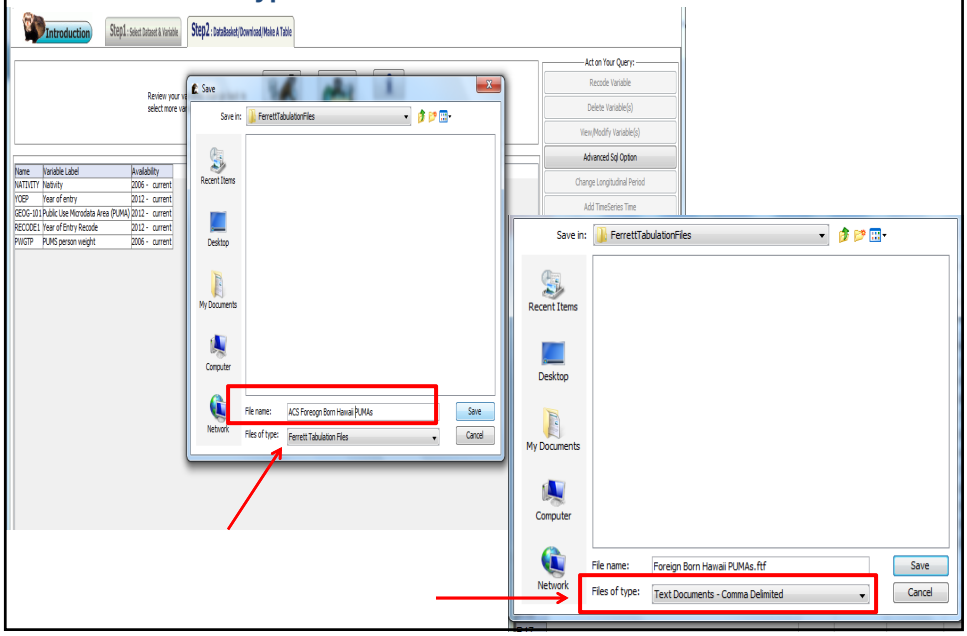
		C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C
		Total NATIVITY			Native			Foreign born				
R1		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	% Entered	
R2	GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780	37.3	
R3	, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113	37.2	
R4	aii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363	40.9	
R5	olulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793	45.6	
R6	olulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400	18.0	
R7	olulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053	28.2	
R8	olulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714	45.8	
R9	olulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592	45.5	
R10	olulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799	33.7	
R11	olulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024	32.5	
R12	olulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929	27.2	
R13												
R14												
R15												
R16												
R17												
R18												

From File, Click 'Save As'



	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
	Total NATIVITY			Native			Foreign born			
	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	% Entered
	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780	37.3
unties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113	37.2
aii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363	40.9
hu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793	45.6
oko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400	18.0
olulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053	28.2
to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714	45.8
o Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592	45.5
a to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799	33.7
ahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024	32.5
IA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929	27.2

Name the table 'Foreign Born Hawaii PUMAs'
Save as File Type: Ferrett Tabulation File OR
File type: Text Documents – Comma Delimited



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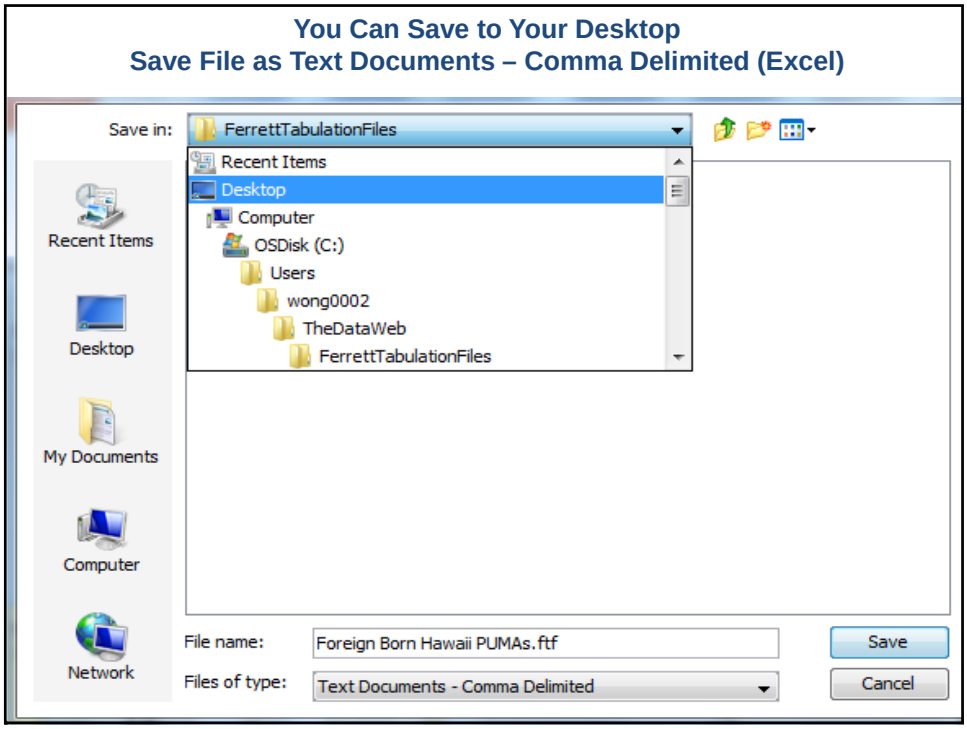

Foreign Born Hawaii PUMAS

GO Get Data

LABELS() Col C1

Pivot(s) can be dropped on pivot image above R1.

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
		Total NATIVITY			Native			Foreign born			
R1		Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	Total	Before 2000	2000 or Later	% Enter
R2	Total GEOG-101	292,170	183,330	108,840	51,307	32,247	19,060	240,863	151,083	89,780	
R3	Maui, Kalawao & Kauai Counties PUMA; Hawaii	50,647	31,809	18,838	4,639	2,914	1,725	46,008	28,895	17,113	
R4	Hawaii County PUMA, Hawaii	21,460	12,063	9,397	5,884	2,850	3,034	15,576	9,213	6,363	
R5	Honolulu County--Rural Oahu PUMA, Hawaii	11,088	5,692	5,396	2,772	1,169	1,603	8,316	4,523	3,793	
R6	Honolulu County--Koolaupoko PUMA, Hawaii	10,640	8,140	2,500	2,873	1,773	1,100	7,767	6,367	1,400	
R7	Honolulu County--East Honolulu to Kapahulu PUMA, Hawaii	19,797	13,711	6,086	5,433	3,400	2,033	14,364	10,311	4,053	
R8	Honolulu County--Tantalus to Waikiki PUMA, Hawaii	41,222	22,972	18,250	4,740	3,204	1,536	36,482	19,768	16,714	
R9	Honolulu County--Nuuanu to Kalihi PUMA, Hawaii	42,581	23,960	18,621	6,097	4,068	2,029	36,484	19,892	16,592	
R10	Honolulu County--Moanalua to Pearl City PUMA, Hawaii	25,737	17,061	8,676	5,581	3,704	1,877	20,156	13,357	6,799	
R11	Honolulu County--Central Oahu PUMA, Hawaii	40,955	27,295	13,660	7,052	4,416	2,636	33,903	22,879	11,024	
R12	Honolulu County--Ewa PUMA, Hawaii	28,043	20,627	7,416	6,236	4,749	1,487	21,807	15,878	5,929	
R13											
R14											
R15											
R16											

Questions

Resources: Need Assistance?

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