

# NHGIS

# Extraction & Analysis

## Exercise 1

**OBJECTIVE:** Gain an understanding of how the NHGIS datasets are structured and how they can be leveraged to explore your research interests. This exercise will use an NHGIS dataset to explore slavery in the United States in 1830.

## *Research Question*

**What was the state-level distribution of slavery in 1830?**

## *Objectives*

- Create and download an NHGIS data extract
- Unzip data file and open in Microsoft Excel
- Analyze the data using Microsoft Excel
- Validate data analysis work using answer key

## *Log in to NHGIS*

- Go to <http://www.nhgis.org> and click on 'Login' in the top right.
- If you have already registered on any Minnesota Population Center website...
  - If you remember your password, log in now. Otherwise, click the "Forgot your password?" link on the right and follow the instructions.
- If you have not already registered...
  - Click on the "Create an account" link on the right, fill in the required information, and submit your registration.
- You will then enter the NHGIS Data Finder...

## *Filter to Find Tables*

Apply any combination of the four filters below to find 1830 slavery related tables.

- **Geographic Levels** = 'State'
- **Years** = '1830'
- **Topics** = 'Slavery'
- **Datasets** = '1830\_cPop'

## *Inspect the Full Dataset*

Suppose you were interested not only in slavery, but in all that's covered by the 1830 Census.

- To view all available 1830 data, use only the **Years** Filter set to '1830'.

1) How many tables are available from the 1830 Census? \_\_\_\_\_

2) Other than slave status, what are some other topics could we learn about for 1830?

\_\_\_\_\_

## *Locate the Desired Table*

- Let's focus in on the slavery topic. To narrow the results, apply the **Topics** Filter of 'Slavery'. (You can find it at the bottom of the list of POPULATION topics.)
- The Select Data grid now lists all the tables related to the topic of Slavery. If you don't also have the **Years** Filter on, scroll down to find the 1830 tables, or utilize additional filters to further limit the available tables.
- Locate this 1830 table and answer the questions that follow:

### **NT12. Race/Slave Status by Sex**

## *Learn About the Table in the Data Finder*

3) Click the table name to see additional information. How many variables does this table contain? \_\_\_\_\_

4) For which geographic levels is the table available? \_\_\_\_\_

5) Close the table pop-up window and inspect the Select Data table... What is the universe for this table? \_\_\_\_\_

6) What differentiates this table from the other available slavery tables from 1830?

\_\_\_\_\_

7) Name a percentage or ratio this table would allow us to calculate that the other tables would not, based on the counts available in each table? \_\_\_\_\_

\_\_\_\_\_

## *Create a Data Extract*

Creating a data extract requires the user to select the table(s), specify a geographic level, and select the data layout structure...

- Click the plus sign to the left of the table name to add table NT12 to your Data Cart.
- Click the green Continue button in your Data Cart.
- On the Data Options screen, select the geographic level of 'State'.
- Click the green Continue button in your Data Cart.
- On the Review and Submit screen, check the box to 'Include additional descriptive header row (best for spreadsheets)', add an extract description if you wish, and click Submit.

## *Download the Data Extract*

From the Extracts History page, you will be able to download your data extract once it has finished processing, typically within a few minutes. You may leave this page and return once you have received the email alerting you to your finished extract.

If you refresh your browser window (click on the loop icon at top, or press F5), you will see the extract status change from 'queued' to 'in progress' to 'complete', at which time you will be able to click the 'tables' link to download the data.

- Return to the Extracts History page if not currently there.
- Right-click on the 'tables' link for the extract you created.
- Choose 'Save Target As...' (or 'Save link as...').
- Save the zip file into 'Documents'.
- Find and open the 'Documents' folder (through the Start menu).
- Right-click on the 'nhgis0001\_csv.zip' file, and select Extract All... Then click the Extract button.
- Open the now-extracted nhgis0001\_csv folder and confirm that it contains two files: a comma separated values (.csv) file and a text (.txt) file.

## *Analyze the Table in Microsoft Excel*

- Double-click on the 'nhgis0001\_ds5\_1830\_state.csv' file to open it in Excel.

8) How many states/territories are included in this table? \_\_\_\_\_

9) Why do you think other states are missing? \_\_\_\_\_

10) Create a new field in column M called Total Population. Enter a formula to calculate the total population for each state by summing the counts in columns G:L. Which state had the largest population? \_\_\_\_\_

11) Create a field in column N called Slave Population. Enter a formula to sum the 2 slave counts (I:J). Which state had the largest slave population? \_\_\_\_\_

12) Create a field in column O called Percent Slave Population. Compute 100 times the Slave Population divided by the Total Population. Which states had the highest and lowest Percent Slave Population?

Highest: \_\_\_\_\_

Lowest: \_\_\_\_\_

13) Are there any surprises, or is it as you expected? \_\_\_\_\_

## *Inspect the Codebook*

Open the .txt codebook file that is in the same folder as the comma delimited file you have already analyzed. The codebook file is a valuable reference containing information about the table or tables you've downloaded.

14) What is the proper citation to provide when using NHGIS data in publications or researcher reports? \_\_\_\_\_

15) What is the email address for NHGIS to share any research you have published? (You can also send questions you may have about the site. We're happy to help!)

*You have finished Exercise 1. Please check your answers on the next two pages.*

## *Answers:*

- 1) How many tables are available from the 1830 Census? **Fifteen (15)**
- 2) Other than slave status, what other topics of interest could we learn about for 1830? **Population that is urban, particular ages, deaf and dumb, blind, and foreign born not naturalized.**
- 3) How many variables does this table contain? **Six (6)**
- 4) For which geographic levels is the table available? **Nation, State, & County**
- 5) What is the universe for this table? **Persons**
- 6) What differentiates this table from the other available slavery tables from 1830? **It includes the counts of "white" persons, in addition to "colored" persons**
- 7) Name a percentage or ratio this table would allow us to calculate that the other tables would not, based on the counts available in each table: **Percentage of total population in slavery, or ratio of slave:free population**
- 8) How many states/territories are included in this table? **Twenty-Eight (28)**
- 9) Why do you think other states are missing? **In 1830, there were not any other states yet! Every decennial census is a historical snapshot, and NHGIS provides census counts just as they were originally reported without "filling in" any information for newer areas.**
- 10) Which state had the largest population? **New York**
- 11) Which state had the largest slave population? **Virginia**
- 12) Which states had the highest and lowest Percent Slave Population? **South Carolina (54.27%) and Vermont (0.00%)**

13) Are there any surprises, or is it as you expected?

**Possibilities: Did you know some states had more slaves than free persons? Did you know that some “free states” were home to substantial numbers of slaves?**

14) What is the proper citation to provide when using NHGIS data?

**Minnesota Population Center. National Historical Geographic Information System: Version 11.0 [Database]. Minneapolis: University of Minnesota. 2016. <http://doi.org/10.18128/D050.V11.0>.**

15) What is the email address for NHGIS to share any research you have published? (You can also send questions you may have about the site. We’re happy to help!)  
**[nhgis@umn.edu](mailto:nhgis@umn.edu)**