Intensity Maps with Google Fusion Tables

http://guides.library.upenn.edu/intensitymaps
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This tutorial goes step-by-step through the process of creating a simple thematic map (or "intensity map") of data by countries in the world using Google Fusion Tables (FT). FT is an easy-to-use visualization tool free with a personal Google account. The result is a web map that can be emailed or embedded in a web site.

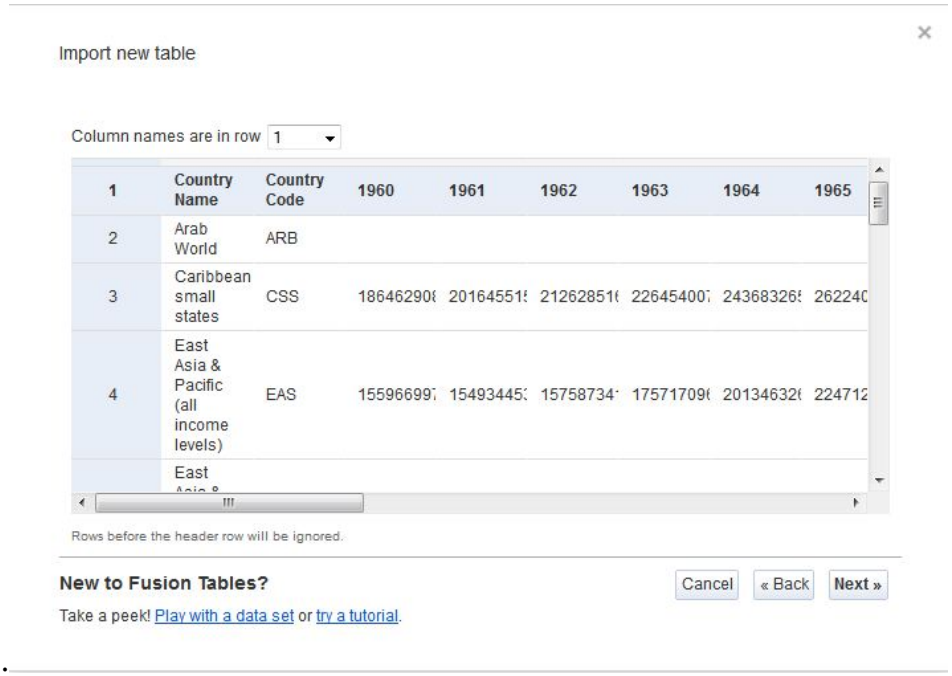
1. First we need data to map. Go to the World Bank's data and pick out an indicator. (Hint: something general, like birth rate, will include more countries.) Go to the page for the indicator, click on Download Data, and select Excel File. Save to your desktop.

2. Next, go to Google Drive and log in with your Google account. Google Fusion Tables are a kind of Google Doc and are stored as Table in Google Drive, but first you must add the Fusion Tables App. Click on Create > Connect more apps, then search for Fusion Tables. Click on the "Connect" button to add the app.

3. Now, when you click on Create in Google Drive, you should see the Fusion Table option. Click on this to create a new Fusion Table document.

4. You'll have several options for importing data. Since you have saved the data to your desktop, you can use "From this computer." Click on Browse, navigate to your desktop, and select the file you downloaded from the World Bank. Click on Next.

5. Fusion Tables will give you a preview of the data. Check to make sure it makes sense, then click Next.



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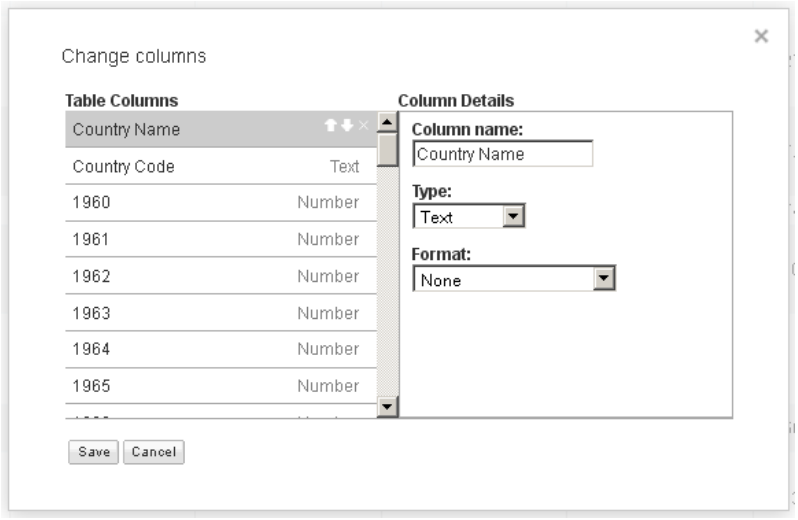
6. With the next menu, describe the data. Go back to the World Bank page for the indicator and copy the indicator name into Table Name, attribute the data to the World Bank, and copy in the URL for the indicator's page for Attribution page link. Click Finish.

7. It may take a few seconds to import the data, but at this point you should see something that looks like a spreadsheet, with rows for each country or region, and columns for the years. Fusion Tables can create a map with this, but you must first identify which column contains the locations to map. Go to Edit > Change Columns. Select the column Country Names and change the Type to Location. Click Save.



8. You should see the country names now highlighted in yellow. This shows that these have been assigned as locations, so we are ready to make a map. The intensity map feature is currently only available in the “classic” Fusion Tables, so go to Help > Back to Classic Look. Then select Visualize > Intensity map.

9. Take a moment to explore the resulting map. Notice that you should be able to change the year displayed using the drop-down menu for Value. You'll also notice that there are some countries missing data, including Russia and Egypt. Take note of any countries that are not shaded in. Next, we will fix these omissions.

10. Go back to the table view by selecting Visualize > Table. Scroll down to find the row for Egypt. Why do you think it didn't show up? Click on the text, change it to "Egypt," and hit enter.

11. If you go back to the intensity map view, you should see that Egypt is now colored in. Now fix the names of the other missing countries in the same way. (Hint: if you're not sure what Google calls a country, go to the intensity map view and in the box for Area, start typing what you think it might be called, and it will tell you Google's version.)

12. When you are satisfied with the way the map looks, you are ready to share it. While you are viewing the intensity map, click on “Get embeddable code.” You will have to change the visibility so it is public, and then you can email a link or use the code to embed in a website.

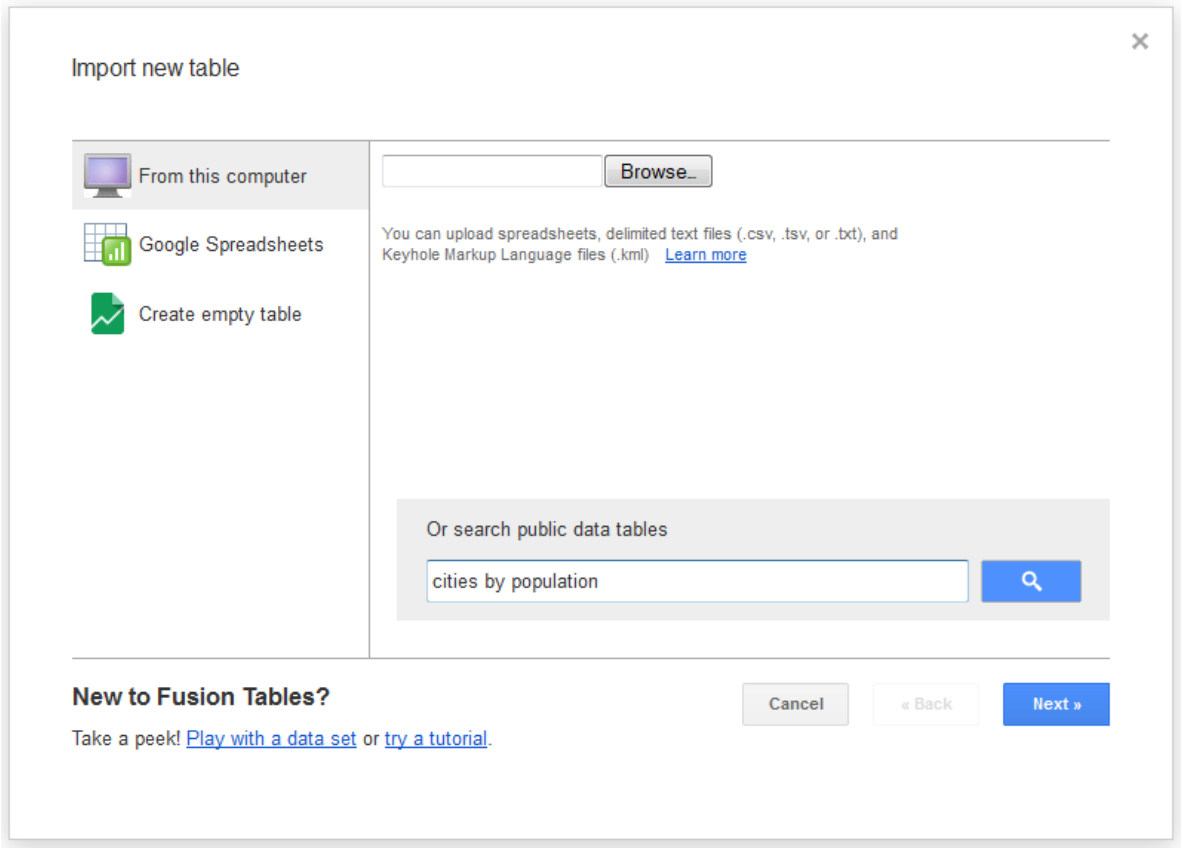
13. Let’s experiment. In the box next to Area, enter United States and hit enter. Why do you think the map looks like it does?

Mapping Points with Data from the Web

This tutorial covers how to create a map in Google Fusion Tables showing points, rather than areas. These maps can be made with data in CSV or Excel format, but in this tutorial we will use data from tables in webpages.

1. From within Google Drive, select Create > Fusion Table.

2. You should see the Import new table dialog box. Under "Or search public data tables," type "cities by population" and hit Enter.

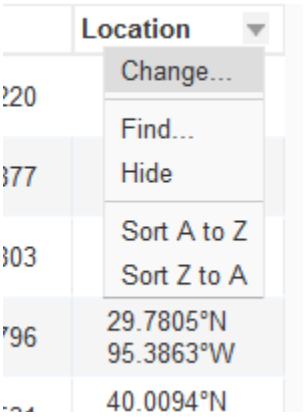


3. What you see are "Web Table" results from Google Tables. Most are from Wikipedia. Look for "List of United States cities by population" and click on Import data.

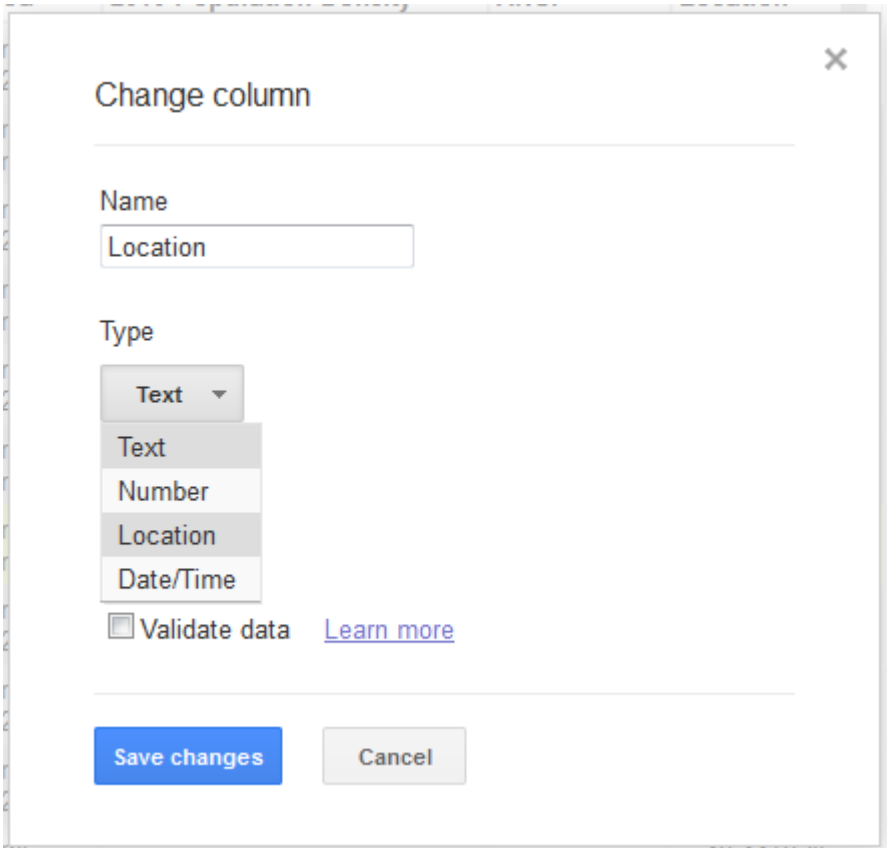
4. It will ask you to select the row containing column names; this will be the first row. Click on “Import to Fusion Tables,” then “See table.”

5. You should now see how the table looks within Fusion Tables. In order to map the data, you will have to tell it which column contains the location for each row. In this case, we have the city name and the latitude and longitude. Fusion Tables can use either of these to map the cities, but the latitude and longitude is more accurate. (It gets confused by places like Ontario, California, or Odessa, Texas.) So, the first step is to designate the “Location” column as the location.

   Click on the down arrow at the top of the “location” column and select “Change…”



In the next dialog box, change the Type from Text to Location, then click Save Changes.



6. Repeat step 5 for columns City and State, but change the type from Location to Text.

7. Now, click on the Map tab above the table. It may take a minute to assign the data to the appropriate locations, a process called geocoding. When it's finished, you should see the cities mapped as points on a map.