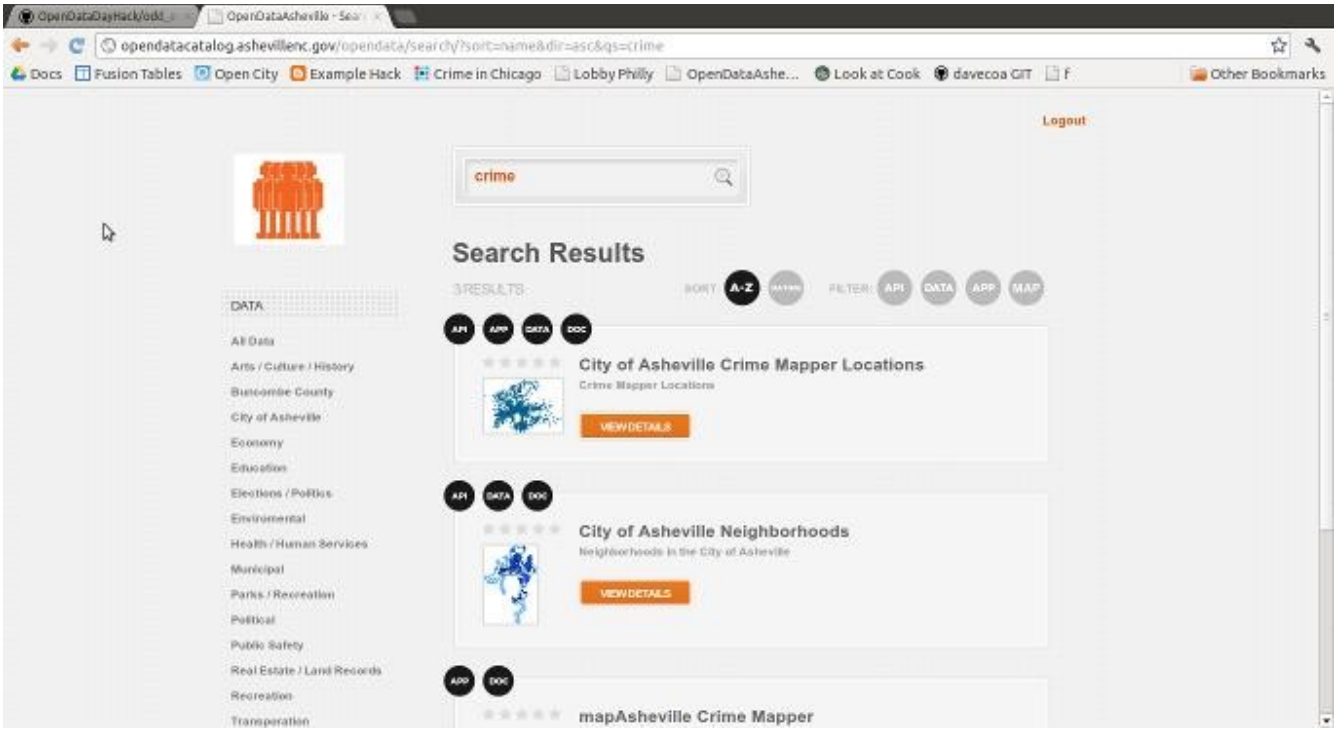
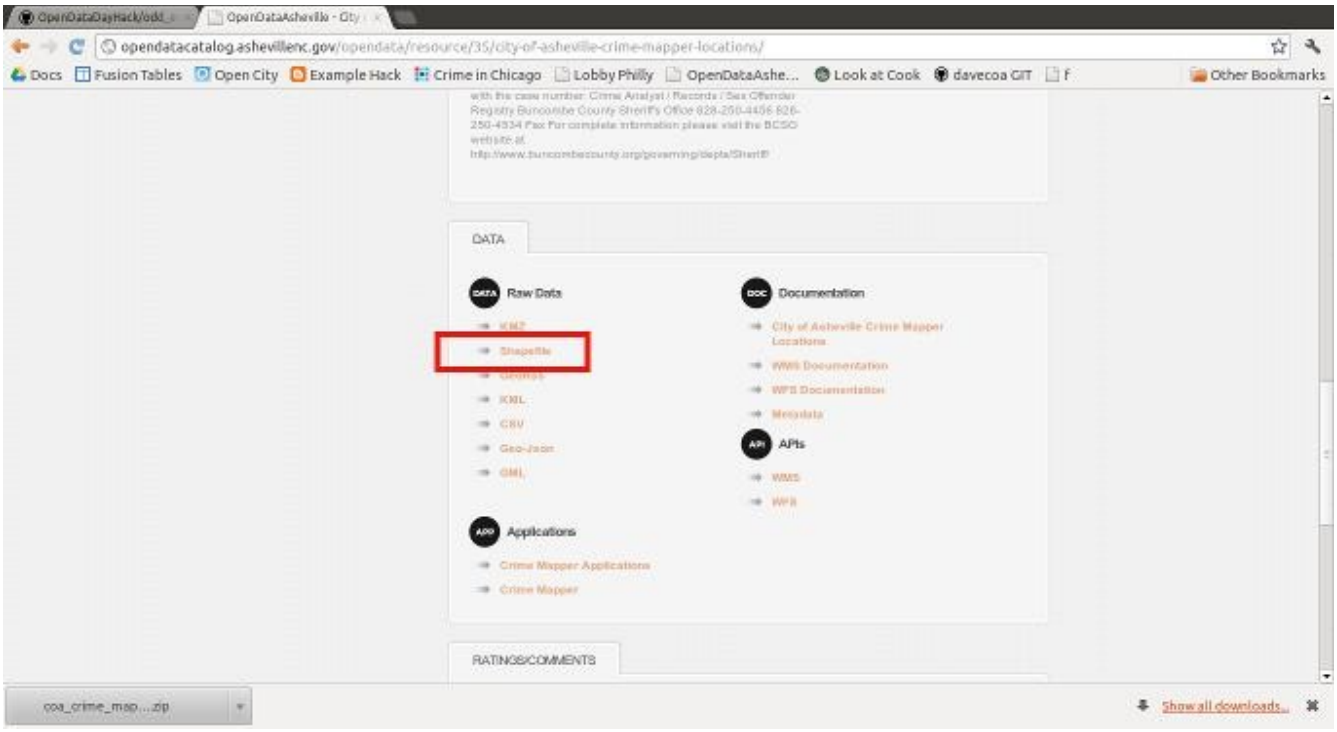
My ODD Sample Hack Directions.

This hack took me about an hour, here is how I did it. I would speculate that if several people worked on the different parts then it would only take a 20 to 30 minutes with the potential of adding extra goodies.

Go to the Open Data Asheville Data Portal at http://opendatacatalog.ashevillenc.gov/ and search for Crime



Select the City of Asheville Crime Mapper Locations. Under the Data area click on the shapefile link.



Hit back on the browser. Select City of Asheville Neighborhoods

Once again click the shapefile link to download.

Unzip coa_asheville_neighborhoods.zip

Unzip coa_crime_mapper_locations_view.zip

Open QGIS.

Add the layers coa_asheville_neighborhoods.shp and coa_crime_mapper_locations_view.shp to QGIS

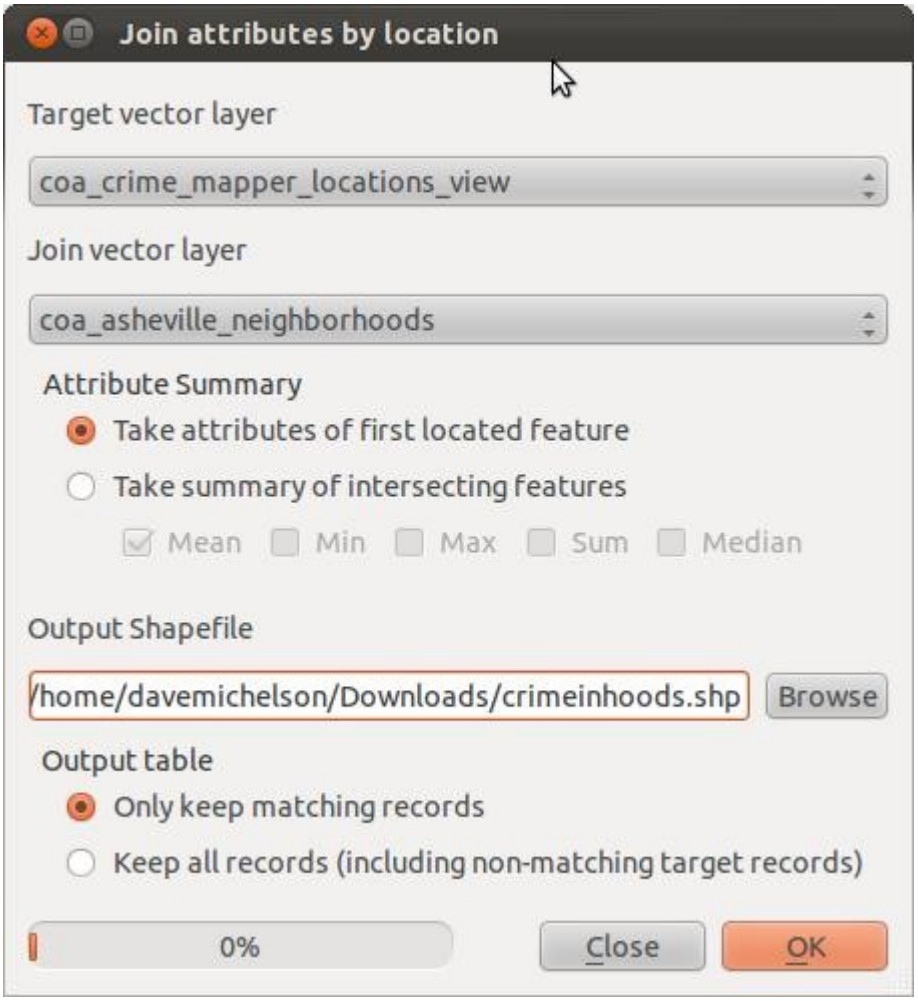
Layer – add vector layer – navigate to where you downloaded and unziped the shapefiles

Now go to the menu choice vector – Data Management Tools – Join attributes by location

Target vector layer: coa_crime_mapper_locations_view

Join vector layer: coa_asheville_neighborhood

Output is crimeinhoods.shp



Click apply. When you are asked to add the layer to the TOC choose yes.

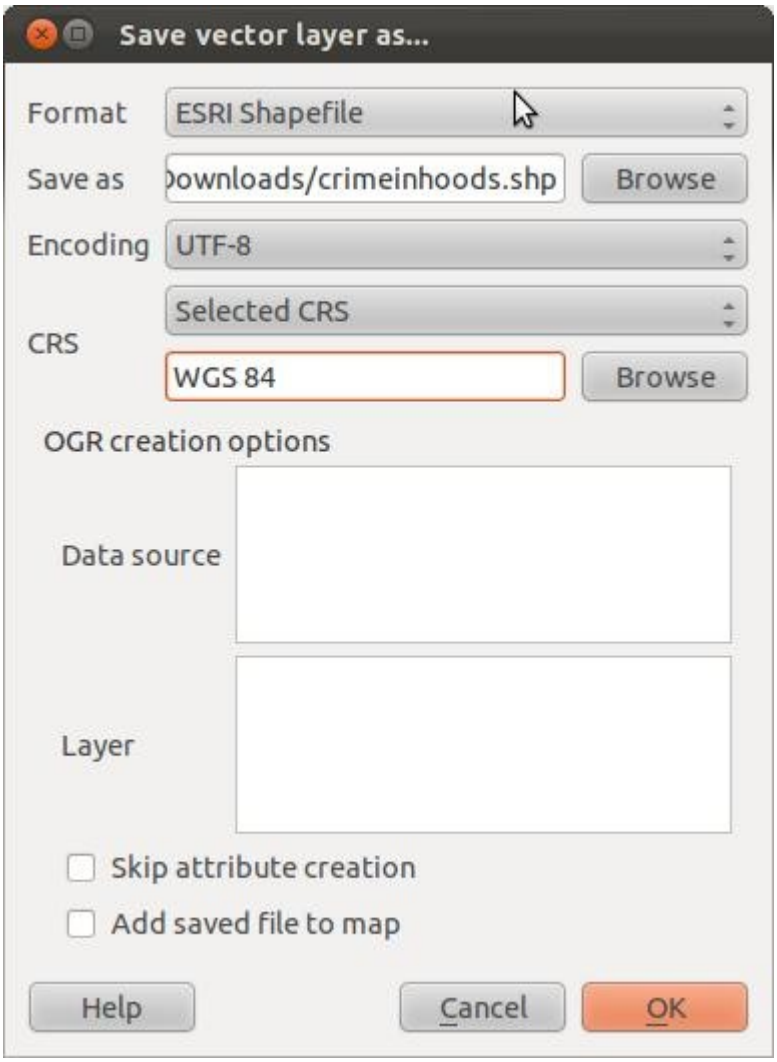
Then close when finished.

Now it is time to re-project the shapefile to wgs84 to get latitude and longitude.

Right click the crimeinhoods layer in the table of contents and click on save as...

Name it crimeinhoods_4326.shp

Now browse for a projection wgs84

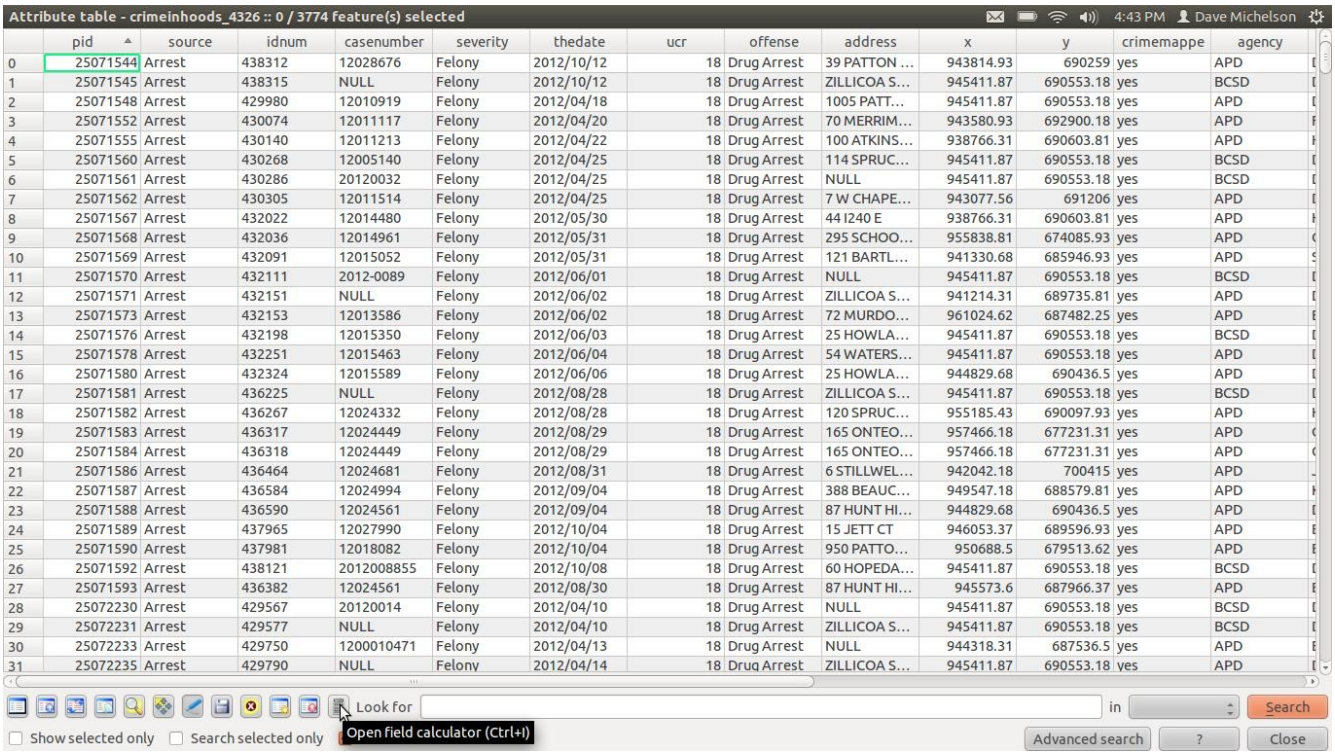


Click OK.

Add the crimeinhoods_4326.shp layer into QGIS.

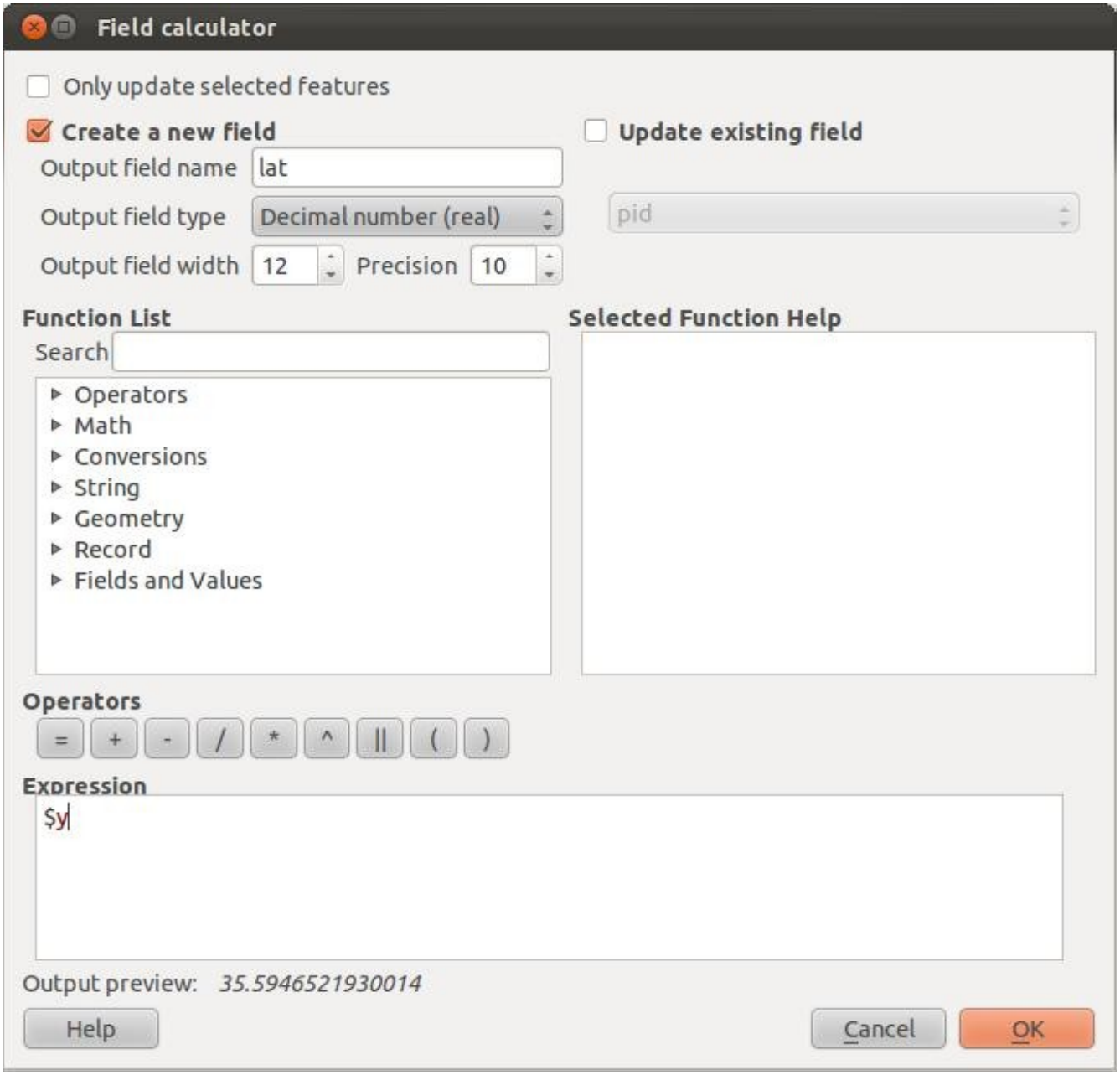
Layer – add vector layer – browse to crimeinhoods_4326.shp

Open the attribute table and toggle editing on.



	pid	source	idnum	casenumber	severity	thedate	ucr	offense	address	x	y	crimemappe	agency
0	25071544	Arrest	438312	12028676	Felony	2012/10/12	18	Drug Arrest	39 PATTON …	943814.93	690259	yes	APD
1	25071545	Arrest	438315	NULL	Felony	2012/10/12	18	Drug Arrest	ZILLICOA S…	945411.87	690553.18	yes	BCSD
2	25071548	Arrest	429980	12010919	Felony	2012/04/18	18	Drug Arrest	1005 PATT…	945411.87	690553.18	yes	APD
3	25071552	Arrest	430074	12011117	Felony	2012/04/20	18	Drug Arrest	70 MERRIM…	943580.93	692900.18	yes	APD
4	25071555	Arrest	430140	12011213	Felony	2012/04/22	18	Drug Arrest	100 ATKINS…	938766.31	690603.81	yes	APD
5	25071560	Arrest	430268	12005140	Felony	2012/04/25	18	Drug Arrest	114 SPRUC…	945411.87	690553.18	yes	BCSD
6	25071561	Arrest	430286	20120032	Felony	2012/04/25	18	Drug Arrest	NULL	945411.87	690553.18	yes	BCSD
7	25071562	Arrest	430305	12011514	Felony	2012/04/25	18	Drug Arrest	7 W CHAPE…	943077.56	691206	yes	APD
8	25071567	Arrest	432022	12014480	Felony	2012/05/30	18	Drug Arrest	44 I240 E	938766.31	690603.81	yes	APD
9	25071568	Arrest	432036	12014961	Felony	2012/05/31	18	Drug Arrest	295 SCHOO…	955838.81	674085.93	yes	APD
10	25071569	Arrest	432091	12015052	Felony	2012/05/31	18	Drug Arrest	121 BARTL…	941330.68	685946.93	yes	APD
11	25071570	Arrest	432111	2012-0089	Felony	2012/06/01	18	Drug Arrest	NULL	945411.87	690553.18	yes	BCSD
12	25071571	Arrest	432151	NULL	Felony	2012/06/02	18	Drug Arrest	ZILLICOA S…	941214.31	689735.81	yes	APD
13	25071573	Arrest	432153	12013586	Felony	2012/06/02	18	Drug Arrest	72 MURDO…	961024.62	687482.25	yes	APD
14	25071576	Arrest	432198	12015350	Felony	2012/06/03	18	Drug Arrest	25 HOWLA…	945411.87	690553.18	yes	BCSD
15	25071578	Arrest	432251	12015463	Felony	2012/06/04	18	Drug Arrest	54 WATERS…	945411.87	690553.18	yes	APD
16	25071580	Arrest	432324	12015589	Felony	2012/06/06	18	Drug Arrest	25 HOWLA…	944829.68	690436.5	yes	APD
17	25071581	Arrest	436225	NULL	Felony	2012/08/28	18	Drug Arrest	ZILLICOA S…	945411.87	690553.18	yes	BCSD
18	25071582	Arrest	436267	12024332	Felony	2012/08/28	18	Drug Arrest	120 SPRUC…	955185.43	690097.93	yes	APD
19	25071583	Arrest	436317	12024449	Felony	2012/08/29	18	Drug Arrest	165 ONTEO…	957466.18	677231.31	yes	APD
20	25071584	Arrest	436318	12024449	Felony	2012/08/29	18	Drug Arrest	165 ONTEO…	957466.18	677231.31	yes	APD
21	25071586	Arrest	436464	12024681	Felony	2012/08/31	18	Drug Arrest	6 STILLWEL…	942042.18	700415	yes	APD
22	25071587	Arrest	436584	12024994	Felony	2012/09/04	18	Drug Arrest	388 BEAUC…	949547.18	688579.81	yes	APD
23	25071588	Arrest	436590	12024561	Felony	2012/09/04	18	Drug Arrest	87 HUNT HI…	944829.68	690436.5	yes	APD
24	25071589	Arrest	437965	12027990	Felony	2012/10/04	18	Drug Arrest	15 JETT CT	946053.37	689596.93	yes	APD
25	25071590	Arrest	437981	12018082	Felony	2012/10/04	18	Drug Arrest	950 PATTO…	950688.5	679513.62	yes	APD
26	25071592	Arrest	438121	2012008855	Felony	2012/10/08	18	Drug Arrest	60 HOPEDA…	945411.87	690553.18	yes	BCSD
27	25071593	Arrest	436382	12024561	Felony	2012/08/30	18	Drug Arrest	87 HUNT HI…	945573.6	687966.37	yes	APD
28	25072230	Arrest	429567	20120014	Felony	2012/04/10	18	Drug Arrest	NULL	945411.87	690553.18	yes	BCSD
29	25072231	Arrest	429577	NULL	Felony	2012/04/10	18	Drug Arrest	ZILLICOA S…	945411.87	690553.18	yes	BCSD
30	25072233	Arrest	429750	1200010471	Felony	2012/04/13	18	Drug Arrest	NULL	944318.31	687536.5	yes	APD
31	25072235	Arrest	429790	NULL	Felony	2012/04/14	18	Drug Arrest	ZILLICOA S…	945411.87	690553.18	yes	APD

Click the field calculate utility and create two numeric (12,10) fields. One named lat and one named long. Calculate lat to $y and long to $x.


Field calculator
Only update selected features
Create a new field
Update existing field
Output field name
lat
Output field type
Decimal number (real)
pid
Output field width
12
Precision
10
Function List
Search
Operators
Math
Conversions
String
Geometry
Record
Fields and Values
Selected Function Help
Operators
=
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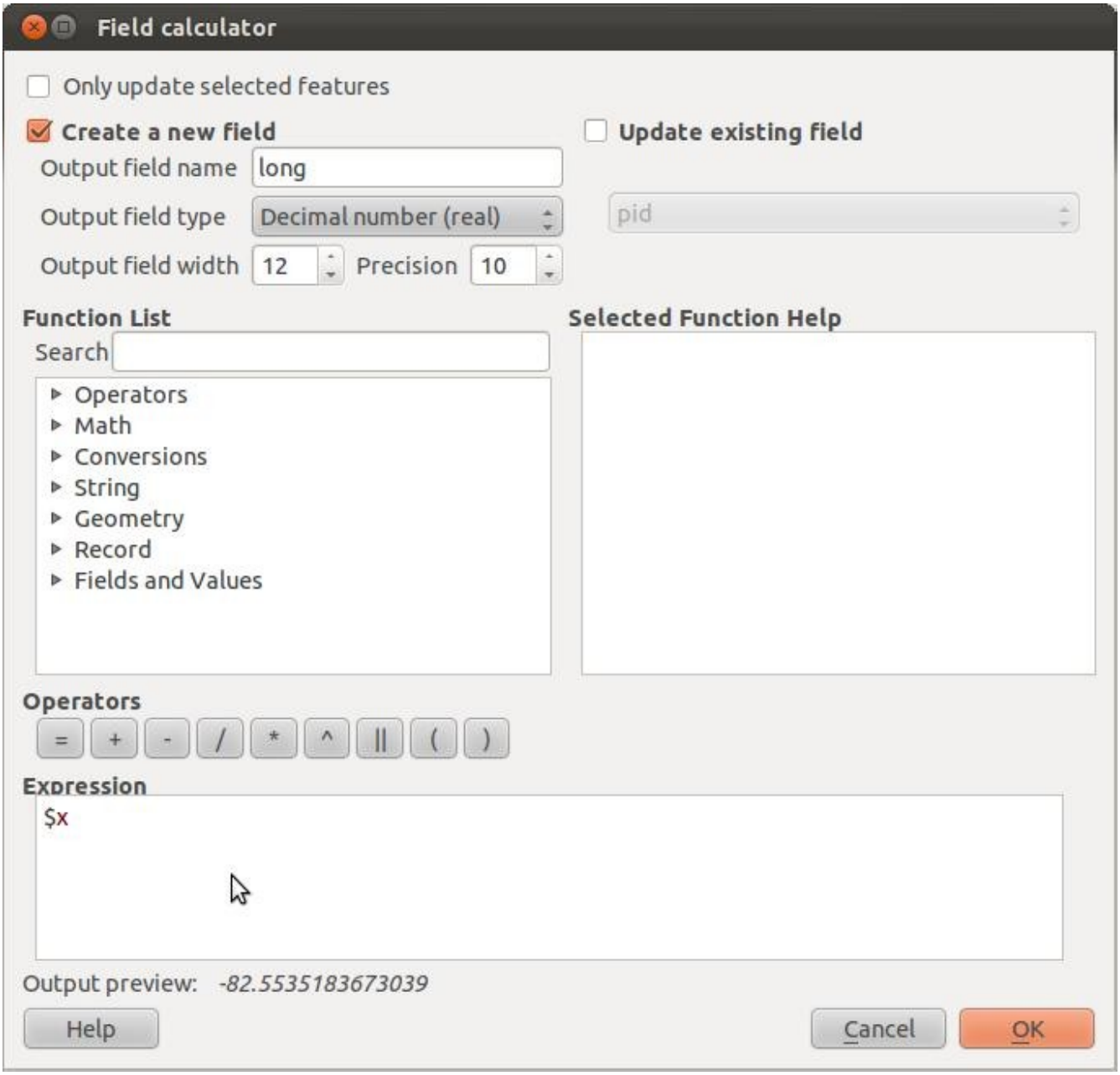
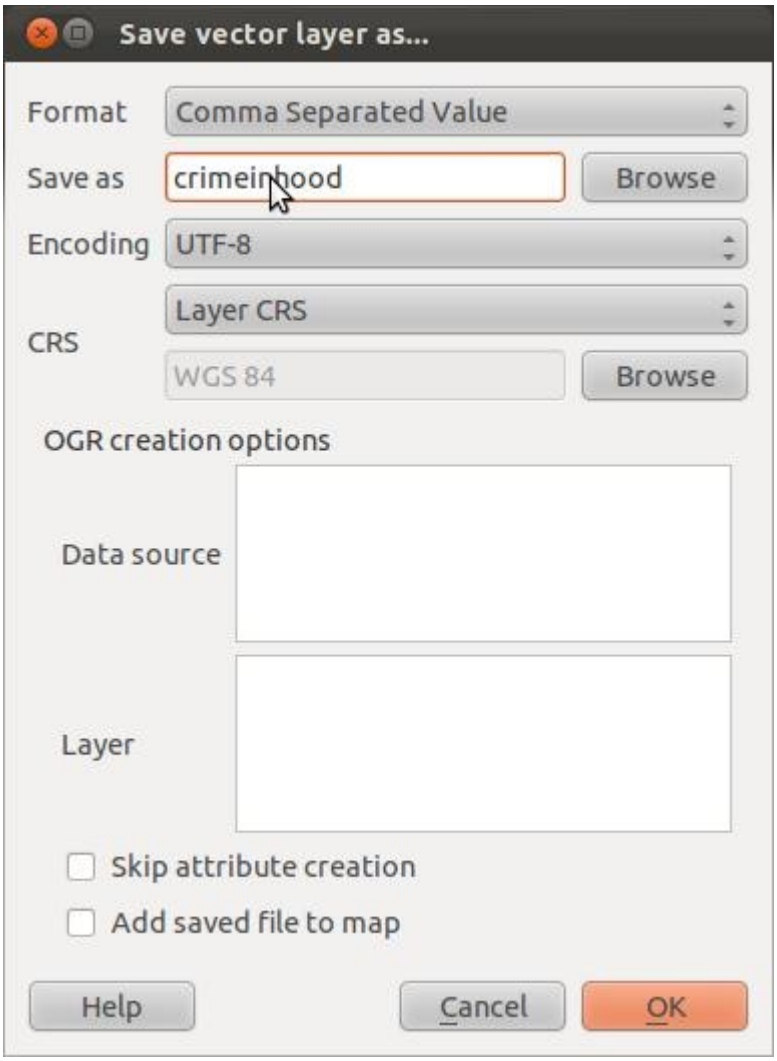
^
||
(
)
Expression
$y
Output preview:
35.5946521930014
Help
Cancel
OK



Toggle the editing off

Save the changes.

Right click the crimeinhoods layer and select save as....

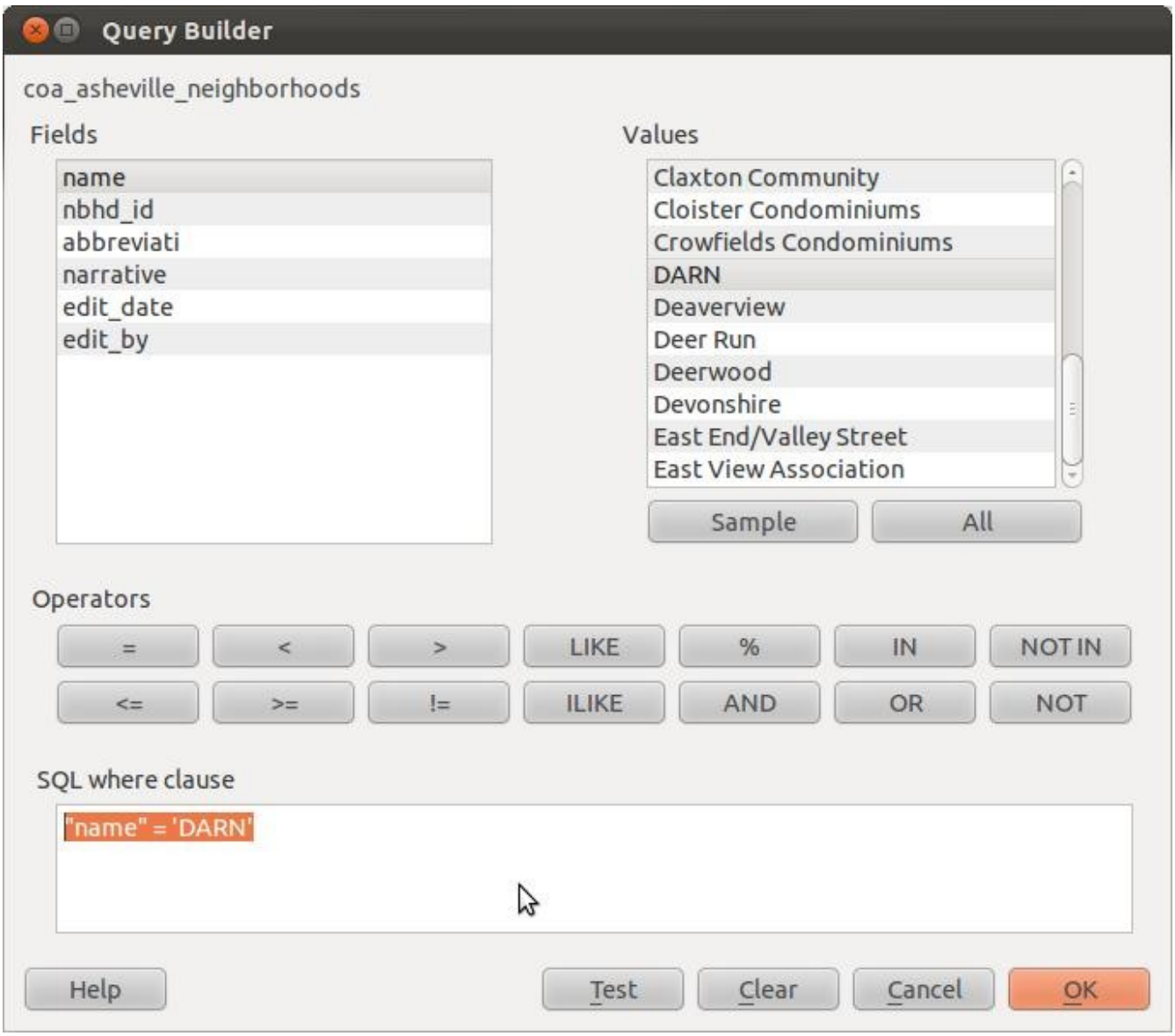


Change the format to CSV comma separated value.

Save as crimeinhood.csv.

Next in QGIS select the neighborhood name = 'DARN ' – in the neighborhood layer.

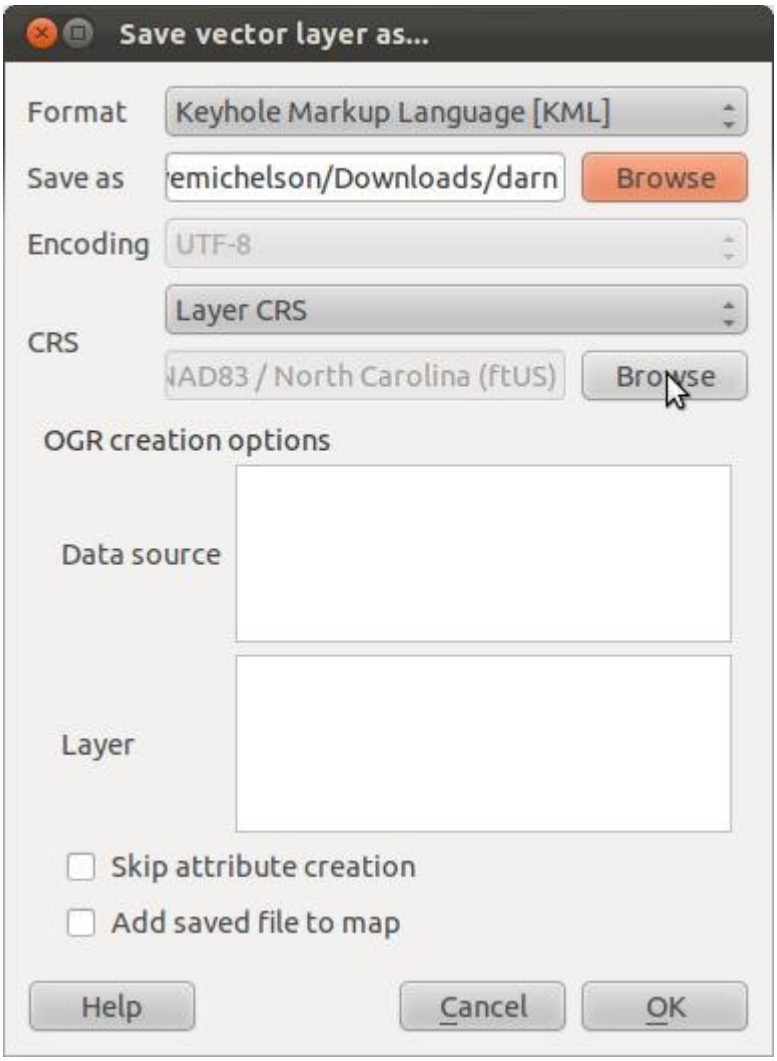
Right click the neighborhood layer in the table of contents and choose select query.



Then hit okay

Right click the neighborhood layer and choose save as...

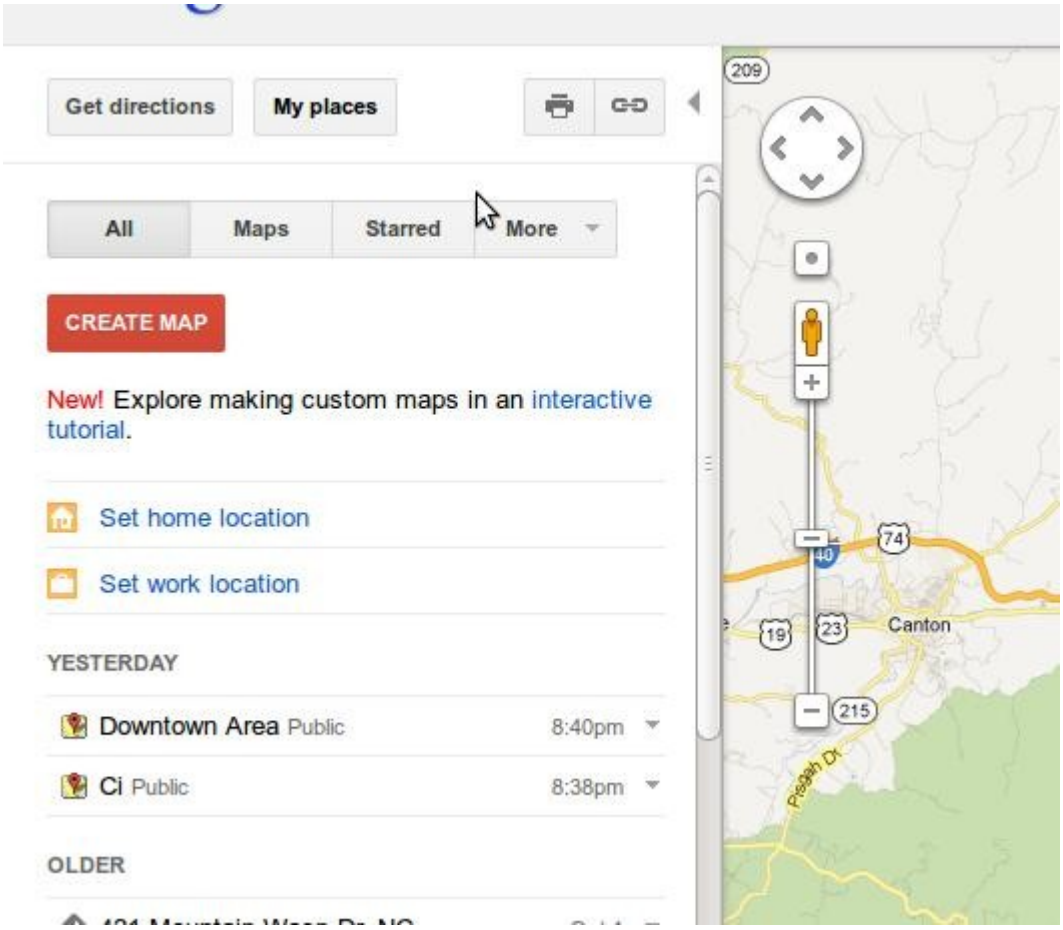
Choose the format as kml key markup language and name it darn.kml



Next you will have to use a Google account to create a custom map...

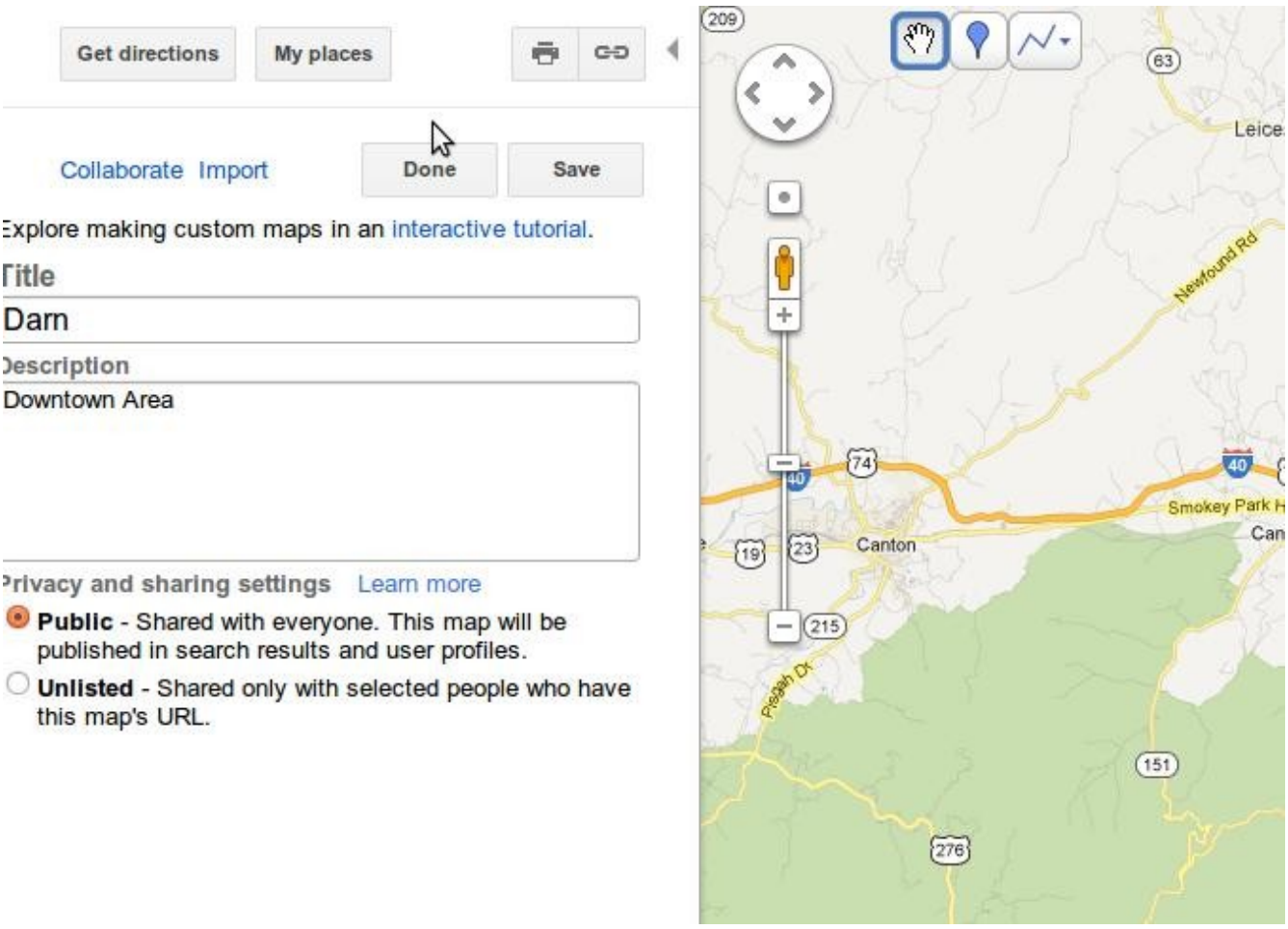
In the menu of your Google account find maps and click on the link.

Use the my places button and then choose create map



Enter a title so it's meaningful (Downtown Area is what I choose.)

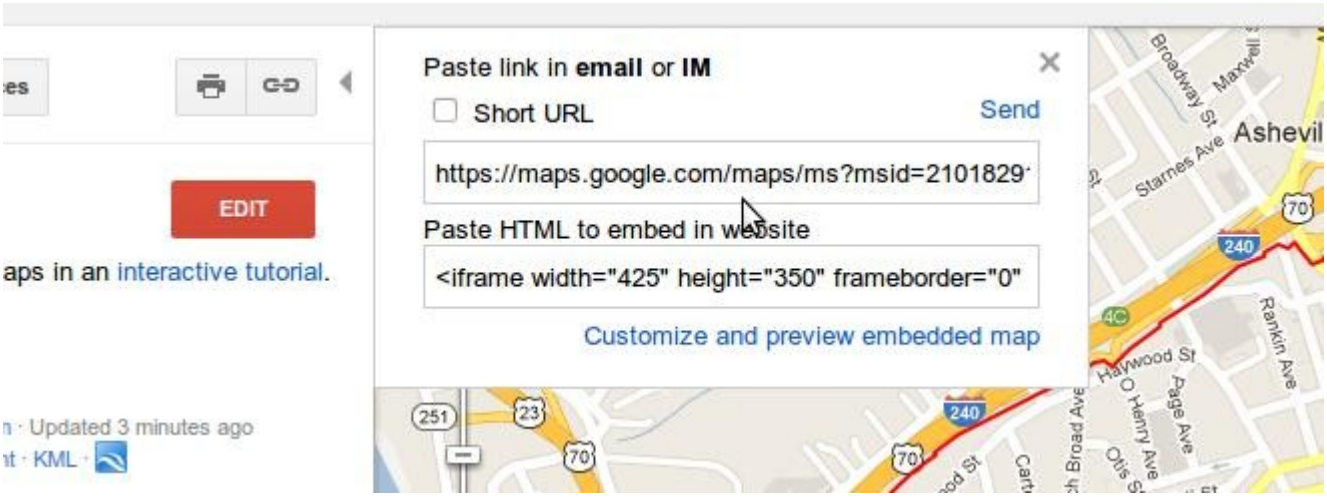
Click on the import link and import the DARN KML file.



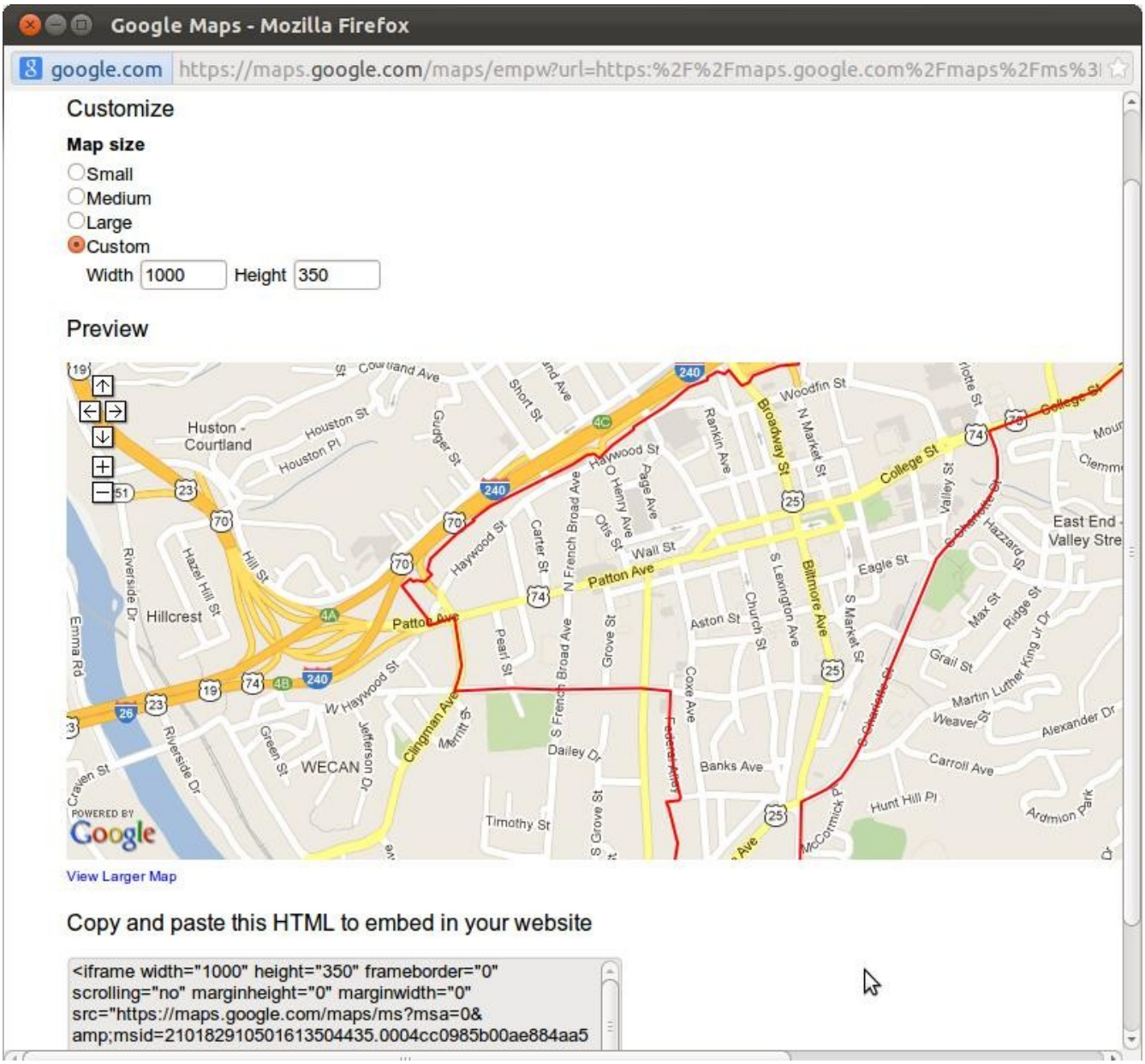
Click save, then click done.

Click the embed link.

Then click the customize and preview embedded map link.



Enter a custom width of 1000 and and height of 350.



Copy and paste the HTML at the bottom into a HTML Editor or blog post.

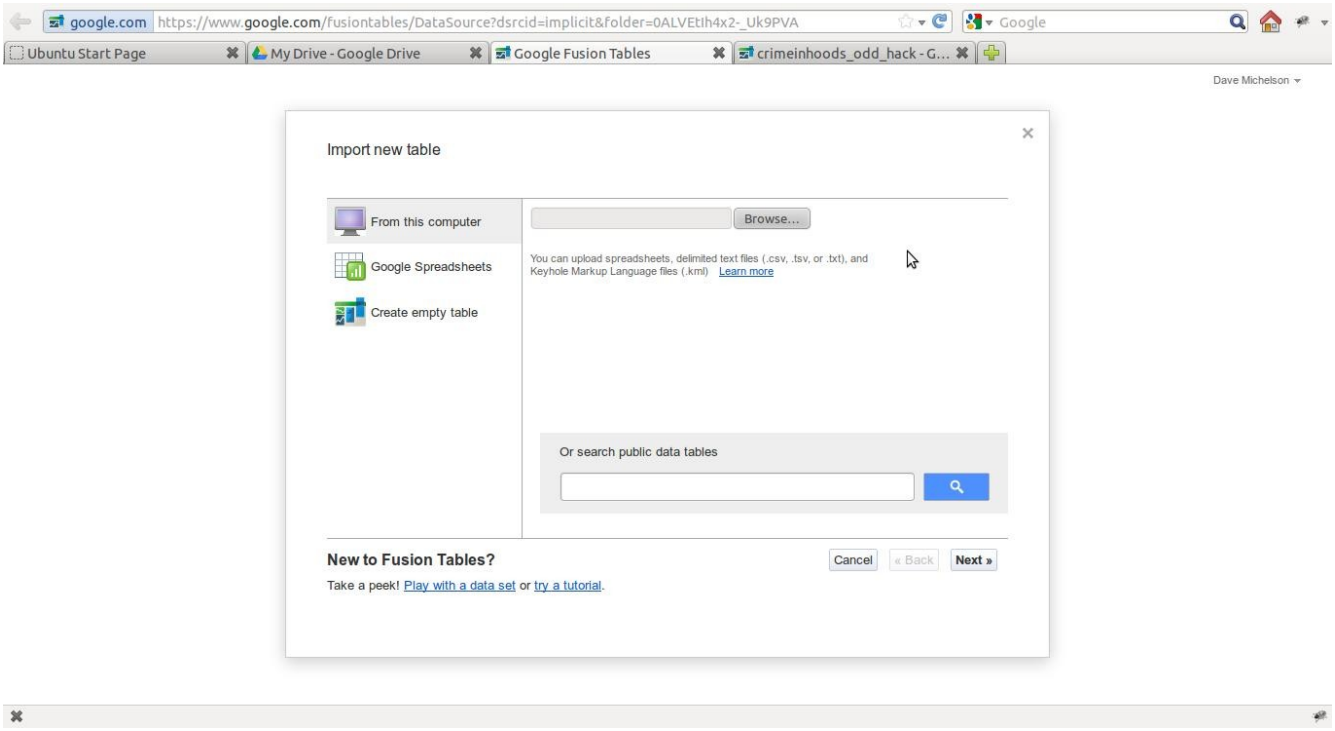
<iframe width="1000" height="350" frameborder="0" scrolling="no" marginheight="0" marginwidth="0" src="https://maps.google.com/maps/ms?msa=0&msid=210182910501613504435.0004cc0985b00ae884aa5&hl=en&ie=UTF8&t=m&ll=35.593076,-82.552428&spn=0.012214,0.042915&z=15&output=embed"></iframe>
<small>View <a href="https://maps.google.com/maps/ms?msa=0&msid=210182910501613504435.0004cc0985b00ae884aa5&hl=en&ie=UTF8&t=m&ll=35.593076,-

82.552428&spn=0.012214,0.042915&z=15&source=embed" style="color:#0000FF;text-align:left">Darn in a larger map</small>

Go to your Google account, find the link for Documents or the link for Google Drive. Add a new fusion table....

Fusion tables are under Create, then more >. (My screen shots refused to capture some of this stuff sorry.)

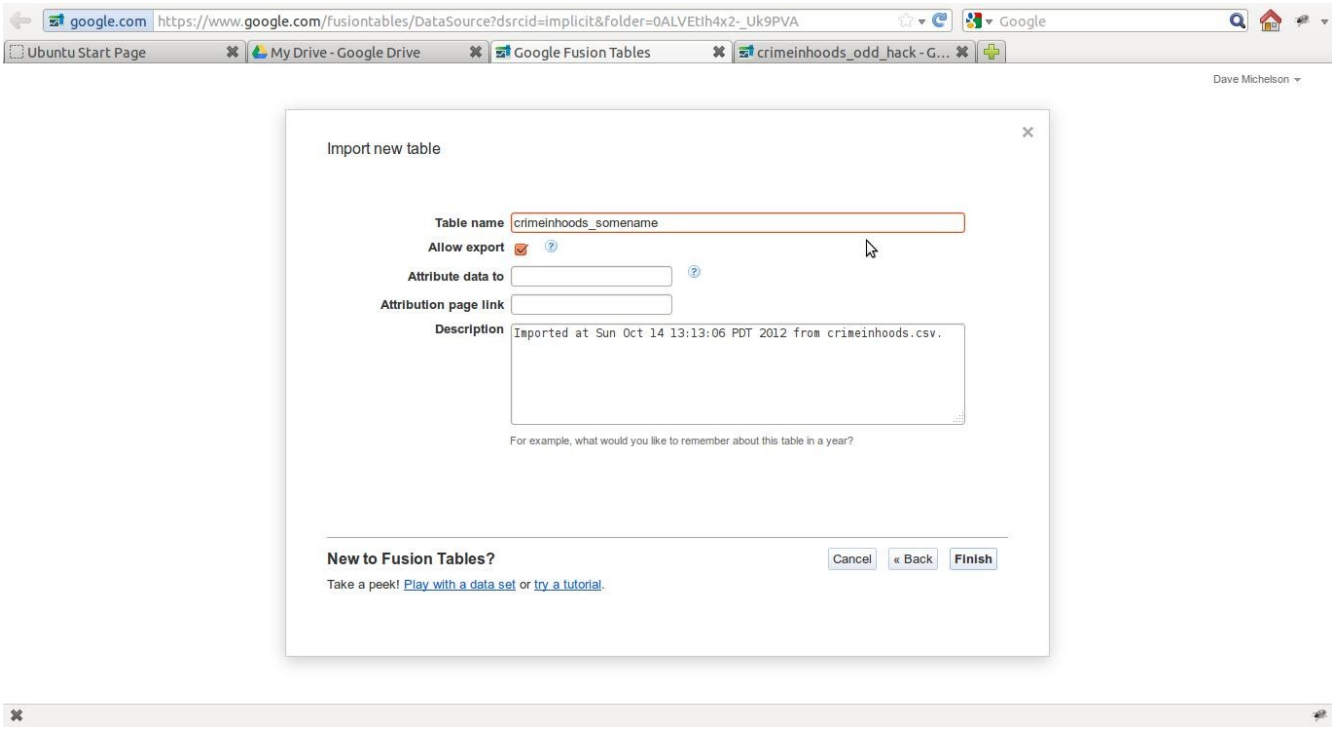
Choose to browse to a file from this computer. The file should be named crimeinhoods.csv, (you may have named it differently which is fine) and click next.



Accept the defaults and click next.

When the upload has completed click next again.

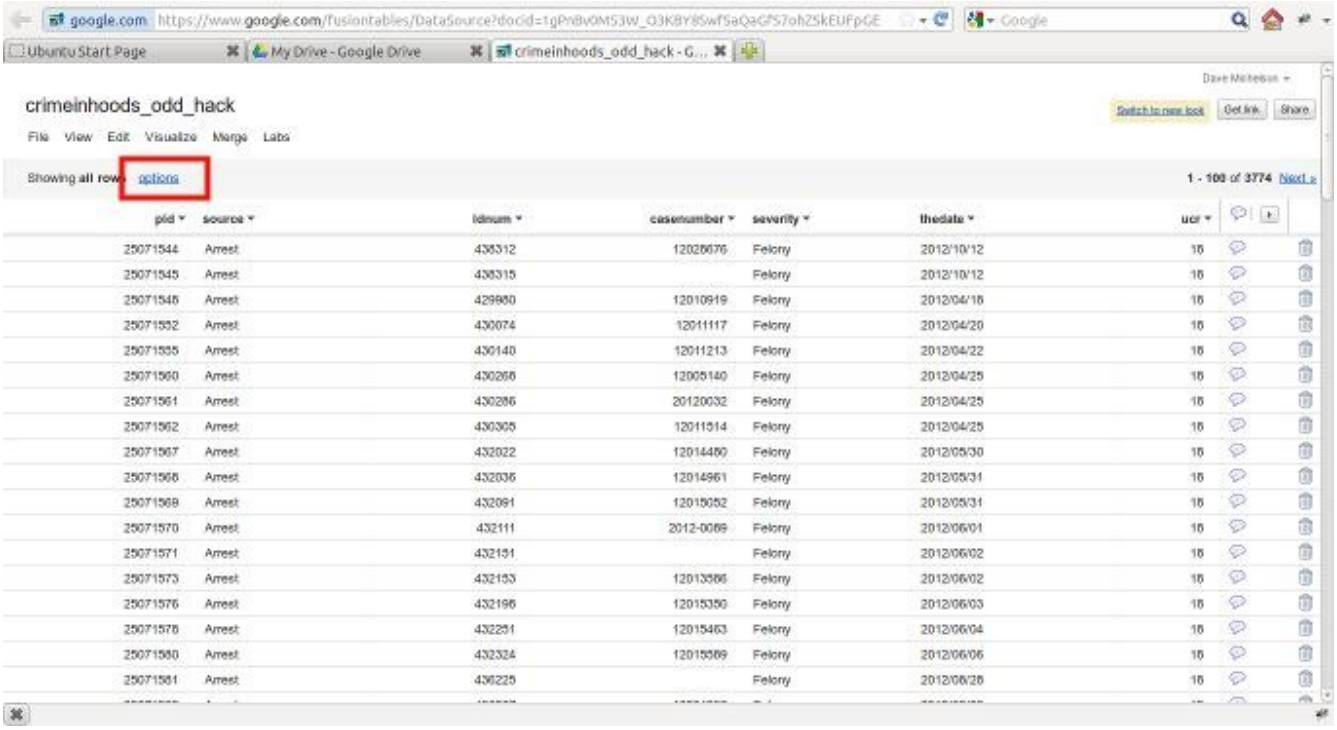
Rename the imported file to something like crimeinhoods_odd_hack



Click Finish.

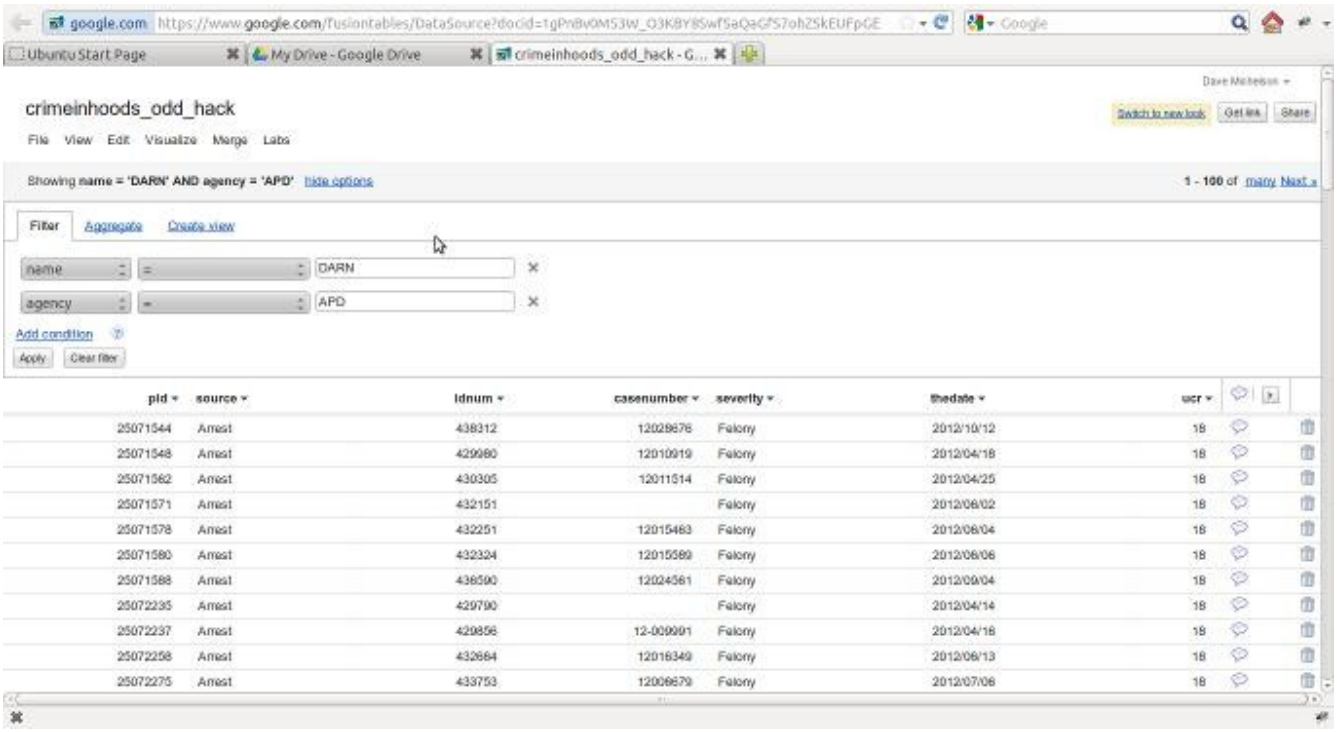
You may have to wait till it uploads to work with the fusion table...

After the import is complete start your analysis by clicking on the options link

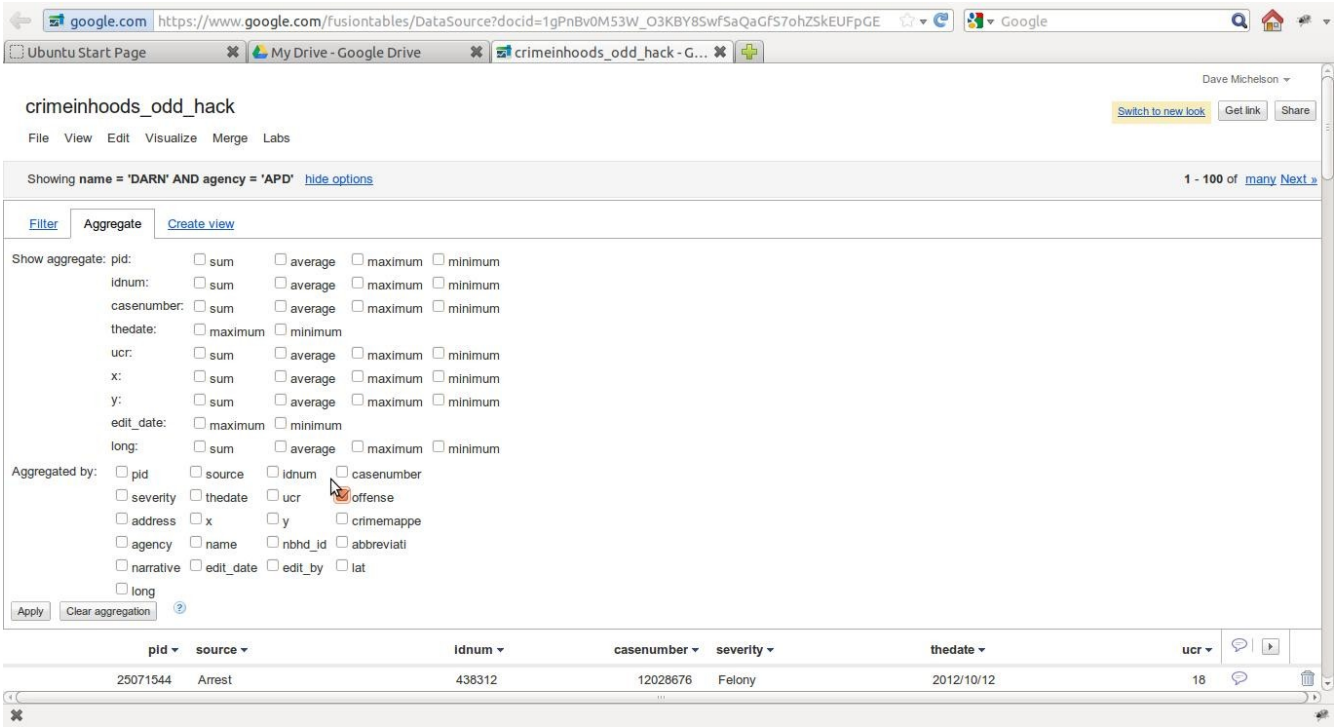


Add filters for name(neighborhood) = DARN and agency = APD. Don't forget to click the apply

button!



Next add an aggregate for offense. Don't forget to click the apply button!



From the fusion table menu choose visualize pie. Mmmmm Pie.

Click the get embeddable code button, then the change visibility link, choose share.

Next choose the level of sharing you want. Since this is built on Open data you should lean towards public!

Click OK.

Go back to the embeddable code link and change the width to 1000 and height to 350.

Copy and paste the HTML to a HTML editor and make the HTML look nice. I copied it to a blog post it was a lot easier.

<iframe width="1000" height="350" scrolling="no" frameborder="no" src="https://www.google.com/fusiontables/embedviz?viz=GVIZ&t=PIE&containerId=gviz_canvas&q=select+col7%2C+count()+from+1gPnBv0M53W_O3KBY8SwfSaQaGfS7ohZSkEUFpGE+where+col13+%3D+'DARN'+and+col12+%3D+'APD'&qrs=+and+col7+%3E%3D+&qre=+and+col7+%3C%3D+&qe=+group+by+col7+limit+9&width=1000&height=350"></iframe>

Go back to the visualize and choose bar.

Repeat the embeddable code process width 1000 and 350 width.

<iframe width="1000" height="350" scrolling="no" frameborder="no" src="https://www.google.com/fusiontables/embedviz?viz=GVIZ&t=BAR&containerId=gviz_canvas&q=select+col7%2C+count()+from+1gPnBv0M53W_O3KBY8SwfSaQaGfS7ohZSkEUFpGE+where+col13+%3D+'DARN'+and+col12+%3D+'APD'&qrs=+and+col7+%3E%3D+&qre=+and+col7+%3C%3D+&qe=+group+by+col7+limit+9&att=true&width=1000&height=335"></iframe>

I found that the bar code did not sort by the count of crime offenses so I hacked it and added the syntax to sort it. See the addition in red below.

<iframe width="1000" height="350" scrolling="no" frameborder="no" src="https://www.google.com/fusiontables/embedviz?viz=GVIZ&t=BAR&containerId=gviz_canvas&q=select+col7%2C+count()+from+1gPnBv0M53W_O3KBY8SwfSaQaGfS7ohZSkEUFpGE+where+col13+%3D+'DARN'+and+col12+%3D+'APD'&qrs=+and+col7+%3E%3D+&qre=+and+col7+%3C%3D+&qe=+group+by+col7+**order+by+count()**+limit+9&att=true&width=1000&height=335"></iframe>

Repeat the copy and paste to the HTML editor or blog post.

Go to the aggregate again and change the aggregate from offense to thedate.

Change visualize to line and get the embeddable code the same way.

<iframe width="1000" height="350" scrolling="no" frameborder="no" src="https://www.google.com/fusiontables/embedviz?viz=GVIZ&t=LINE&containerId=gviz_canvas&isXyPlot=true&q=select+col5%2C+count()+from+1gPnBv0M53W_O3KBY8SwfSaQaGfS7ohZSkEUFpGE+where+col13+%3D+'DARN'+and+col12+%3D+'APD'&qrs=+and+col5+%3E%3D+&qre=+and+col5+%3C%3D+&qe=+group+by+col5+order+by+col5+asc+limit+250&att=true&width=1000&height=335"></iframe>

Again I noticed that the syntax did some things I did not like - it left out some months at the end of the graph. I hacked it like below. The hack is in red.

<iframe width="1000" height="350" scrolling="no" frameborder="no" src="https://www.google.com/fusiontables/embedviz?viz=GVIZ&t=LINE&containerId=gviz_canvas&isXyPlot=true&q=select+col5%2C+count()+from+1gPnBv0M53W_O3KBY8SwfSaQaGfS7ohZSkEUFpGE+where+col13+%3D+'DARN'+and+col12+%3D+'APD'&qrs=+and+col5+%3E%3D+&qre=+and+col5+%3C%3D+&qe=+group+by+col5+order+by+col5+asc+limit+**10000**&att=true&width=1000&height=335"></iframe>

Repeat the copy and paste to the HTML editor or blog post.

Now add a new filter for offense. Start with Drug Arrest, then Larceny, and then Vandalism. Each one individually, each time Repeating the copy and paste to the HTML editor or blog post.

In each instance I hacked the limit to 10000 to force the graph to show all dates.

For the maps remove all aggregates. You need the lat and long fields, which aggregation leaves off. Fusion tables auto-magically recognize the field lat and long as a location so you should be good to go creating the map.

You will also need to add another filter for date, to replicate my maps. Dates are formated like 2011/10/29(yyyy/mm/dd) in the data. Then choose visualize and map. It should be auto-magic, if your points are in Antarctica, you have the lat and long backwards.

I followed the same principle for each map as the charts. I changed the width to 1000 and height to 350. I copy and pasted the embedded link, then repeated the copy and paste to the HTML editor or blog post.

For the heat map notice that there is a check box that says display as heat map - click it. The embedded link will use that option. Get the embedded link and repeat the copy and paste to the HTML editor or blog post.

For the blog I used the blogger simple template and removed all the extra stuff. I made the width 1200. Since this is a hack you should hack it to what you want and not do exactly what I did!

I saved and published the bog post and - viola, a somewhat simple hack on Open Data from Asheville.

My complete HTML that I am using on the blog post is on github at:

https://github.com/davecoa/OpenDataDayHack/blob/master/odd_example_hack_post.html

feel free to use this guide - hack the settings.

...and Happy Hacking!