

Tipsheet - Google Fusion 3

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Google maps with points are easy to create. Maps with polygons are only a bit more difficult. The hardest part can be to find files with polygons, but even that is possible.

A great site for downloading free spatial data is: <http://www.diva-gis.org/gdata>

You can download files with administrative boundaries for a large number of countries. In this example we will create a map with the regions in Bulgaria. First thing is to download a file with the Bulgarian files:

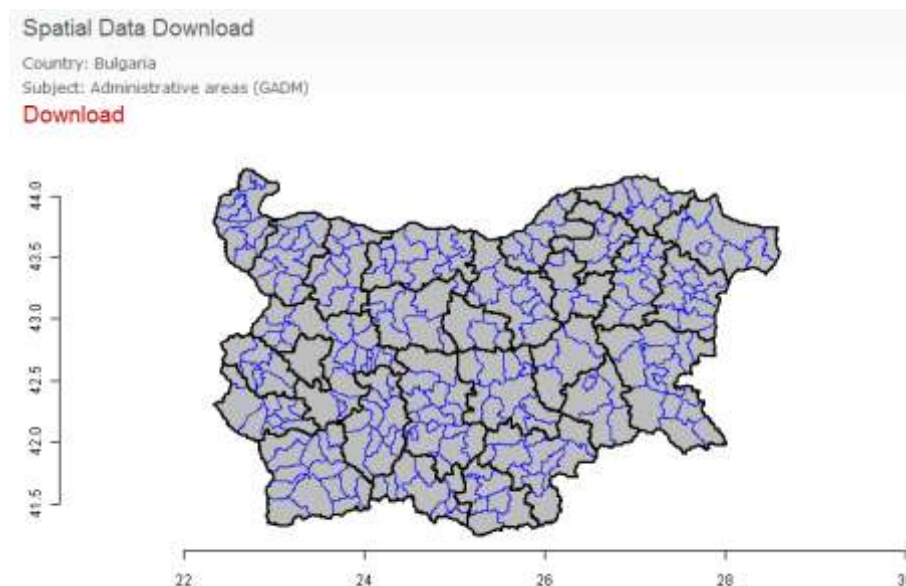
Download data by country

Select and download free geographic (GIS) data for any country in the world

Country

Subject

On the display on the screen it looks like we will get more than one administrative level.



Anyway – we click on Download and receive a zipped folder: BGR_adm.zip

When we look into the folder, we can see that we have received three different administrative levels. BGR_adm0 is the country. Next level is BGR_adm1 and the most local level – the smallest administrative units – is contained in BGR_adm2. The file format is shape files.

BGR_adm0	OpenOffice.org 1.1-regne...	1 KB	Nej	6 KB	87%	02-04-2009 09:27
BGR_adm0.prj	PRJ-fil	1 KB	Nej	1 KB	17%	02-04-2009 09:27
BGR_adm0.sbn	SBN-fil	1 KB	Nej	1 KB	32%	02-04-2009 09:27
BGR_adm0.sbx	SBX-fil	1 KB	Nej	1 KB	24%	02-04-2009 09:27
BGR_adm0.shp	SHP-fil	108 KB	Nej	159 KB	33%	02-04-2009 09:27
BGR_adm0.shx	SHX-fil	1 KB	Nej	1 KB	21%	02-04-2009 09:27
BGR_adm1	OpenOffice.org 1.1-regne...	2 KB	Nej	21 KB	92%	02-04-2009 08:53
BGR_adm1.prj	PRJ-fil	1 KB	Nej	1 KB	17%	02-04-2009 08:53
BGR_adm1.sbn	SBN-fil	1 KB	Nej	1 KB	30%	02-04-2009 08:53
BGR_adm1.sbx	SBX-fil	1 KB	Nej	1 KB	34%	02-04-2009 08:53
BGR_adm1.shp	SHP-fil	366 KB	Nej	532 KB	32%	02-04-2009 08:53
BGR_adm1.shx	SHX-fil	1 KB	Nej	1 KB	22%	02-04-2009 08:53
BGR_adm2	OpenOffice.org 1.1-regne...	12 KB	Nej	206 KB	95%	02-04-2009 08:48
BGR_adm2.prj	PRJ-fil	1 KB	Nej	1 KB	17%	02-04-2009 08:48
BGR_adm2.sbn	SBN-fil	2 KB	Nej	3 KB	35%	02-04-2009 08:48
BGR_adm2.sbx	SBX-fil	1 KB	Nej	1 KB	48%	02-04-2009 08:48
BGR_adm2.shp	SHP-fil	774 KB	Nej	1.318 KB	42%	02-04-2009 08:48
BGR_adm2.shx	SHX-fil	2 KB	Nej	3 KB	33%	02-04-2009 08:48
BGR_readme	Tekstdokument	1 KB	Nej	1 KB	32%	02-04-2009 09:07

We have subsidy data for each region and we want to map those data. So we have to copy all files with BGR_adm1 in the title to a new folder B_regions, and we will zip that folder to B_regions.zip

To create a Google Fusion map based on the Bulgarian regions, we must upload the data to Google Fusion. And we will do that through this site: www.shpescape.com
The service will convert the shape files to the format Google wants, KML.

Go to the site in a browser. Click on Continue and proceed. You might be asked if you want to grant access. Only if you do so, the service can connect to your Google account and upload the files.

You will be prompted to upload a file. I'm going to upload the zipped folder I created a minute ago.

Upload a Zipped Shapefile: B_regions.zip

Advanced Options ▲

The site might be busy and you might end up in a queue. But be patient. Eventually it'll be uploaded.

Suddenly your file is uploaded.

b_regions_bgr_adm1.shp

Status Complete
Total Rows 28
Rows Processed 28
Rows Inserted 28
Fusion Table [1788301](#)

When you click on the Fusion Table number, you will see your table:



Click on the name – in this case `b_regions_bgr_adm1.shp` – and look into the uploaded file.

It contains a number of columns, and you must study it to see which columns look familiar to you. The column called `kml` contains the polygon data. But you must find a column with id-codes for the administrative level you want to map. In this case we want to map farm subsidy data, and we have id numbers for the regions in the column `id1` in our data file.

Bulgarian regions farm subsidies 2010 Farmsubsidy.org

File View Edit Visualize Merge

Showing all rows [options](#)

Област ▾	id1 ▾	geo1 ▾	geo1NationalLanguage ▾
Благоевград	331	Blagoevgrad	Благоевград
Бургас	332	Burgas	Бургас
Варна	354	Varna	Варна
Велико Търново	355	Veliko Turnovo	Велико Търново
Видин	356	Vidin	Видин
Враца	357	Vratsa	Враца

In the uploaded shape file the name of the column with the same type id numbers is called

ID_1:

b_regions_bgr_adm1.shp

File View Edit Visualize Merge

Showing all rows [options](#)

geometry ▾	geometry_vert	ID_0 ▾	ISO ▾	NAME_0 ▾	ID_1 ▾	NAME_1 ▾
kml...	2300	24	BGR	Bulgaria	331	Blagoevgrad
kml...	1081	24	BGR	Bulgaria	332	Burgas
kml...	570	24	BGR	Bulgaria	333	Dobrich

Now we only have to merge the two files. Each of the files have a column with the same type of identification of the regions. We are going to use that.

We only have to remember the name (and number) of the uploaded data file in Fusion:

<http://www.google.com/fusiontables/DataSource?dsrid=1756707>

To merge two files (one with the polygons and one with the data you want to map) simply open your polygon file and click on merge. We will now create a new table with both polygons AND data.

b_regions_bgr_adm1.shp

File View Edit Visualize Merge

Write the number from the URL of the data file and click on Get

Merge with another table

1 Choose the column to use for matching data across the two tables

2 Merge with

1756707

Enter a table name, ID, or URL

Tell Google Fusion which columns to use in the merge:

1 Choose the column to use for matching data across the two tables

2 Merge with

1756707

Enter a table name, ID, or URL

b_regions_bgr_adm1.shp

- geometry
- geometry_vertex_count
- ID_0
- ISO
- NAME_0
- ID_1
- NAME_1
- VARNAME_1
- NL_NAME_1

Select subset of columns

Bulgarian regions farm subsidies 2010

- Област
- id1
- geo1
- geo1NationalLanguage
- ЕФЗ - ДП
- ЕФЗ
- ЕЗФРСР - НБ
- Публично складиране
- Общо

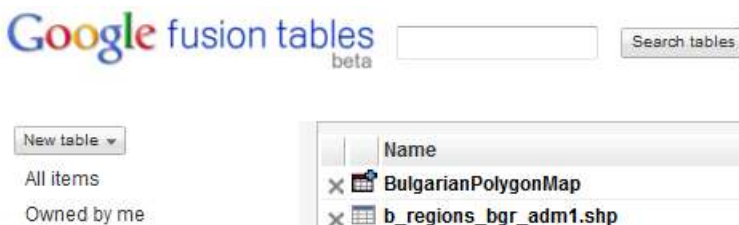
Select subset of columns

Save as a new table named

The merged table will be computed dynamically from the two base tables, using the rows from the first table. Changes to the base tables will be reflected in the merged table and vice versa.

Give the merged table a new name and click Merge tables.

The new table is now created:



Open it and enjoy the result.

In this case the data we want to put on the map is the amount in the column "direct"

Общо ▾	direct ▾	indirect ▾	
46,356,321.6	373,754.13	493,880.63	
55,515,815.78	11,971,465.82	559,363.67	

Click on Visualise – and Map

BulgarianPolygonMap Farmsubsidy.org

File View Edit Visualize Merge

Showing all rows

ID_1 ▾	REMARK	асть ▾
331		гоевп
332		гас
333		рич
334		робо
335		вн (с

Table
Map
Intensity map
Line
Bar
Pie
Sector

For a start the all regions in Bulgaria have the same color – red. But we are going to change that.

Click on Configure styles.

Showing all rows [options](#)

cation geometry ▾ Display as heat map [Configure info window](#) [Configure styles](#) [Exp](#)

And click on Fill color. We want the colors to reflect the amounts in “direct”. I choose “Buckets” and after studying lowest and highest values in my data, I fill in numbers where I want colors to change.

Configure map styles

Points
Marker icon

Polygons
Fill color
Border color
Border width

Lines
Line color
Line width

Polygon background colors

[Fixed](#) [Column](#) **Buckets** [Gradient](#)

Divide into [Custom](#) buckets

Column [direct](#)

+	26,000.0	up to 1,000,000.0		
+	-	1,000,000	up to 10,000,000.0	
+	-	10,000,00	up to 12,000,000.0	
+	-	12,000,00	up to 15,000,000.0	
+	-	15,000,00	up to 30,000,000.0	
		30,000,00		

[Save](#) [Cancel](#)

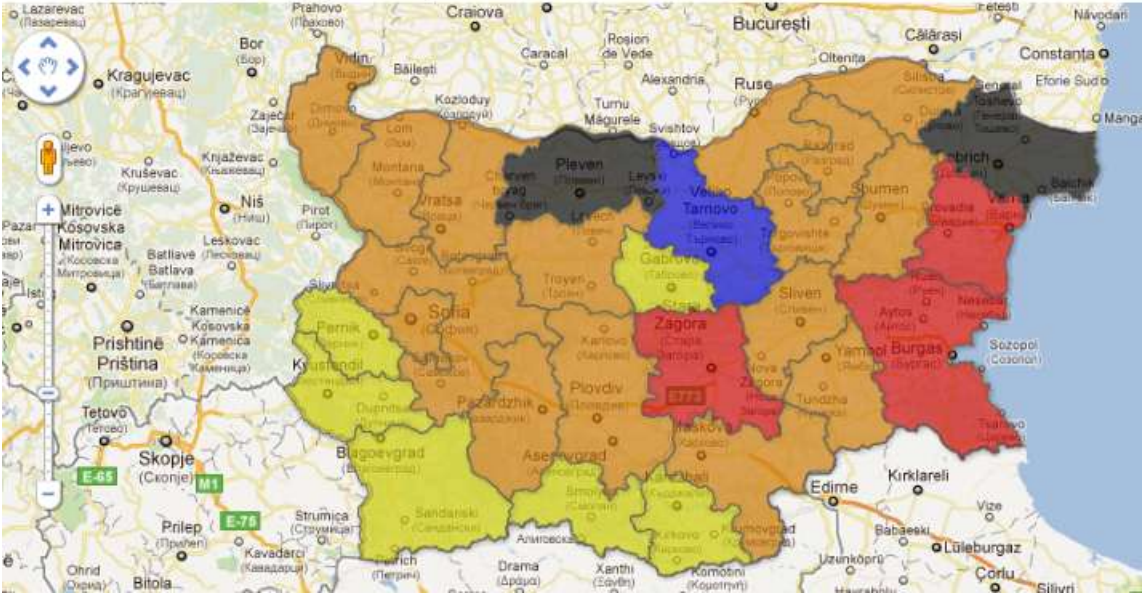
And this is the result:

BulgarianPolygonMap Farmsubsidy.org

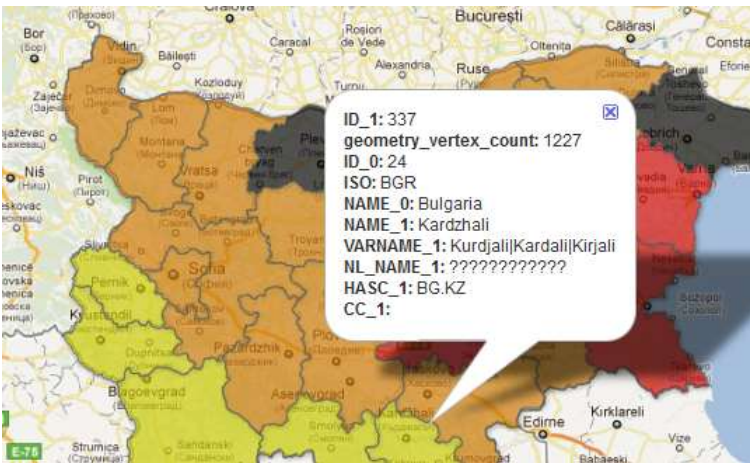
File View Edit Visualize Merge

Showing all rows [options](#)

location geometry Display as heat map [Configure info window](#) [Configure styles](#) [Export to KML](#) [Get KML network link](#)

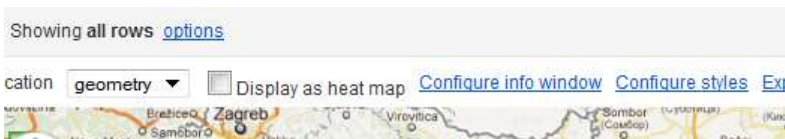


If we click on a region we see a very messy info window.



We want to change that.

Click on Configure Info Window



Configure info window contents



Automatic
Custom

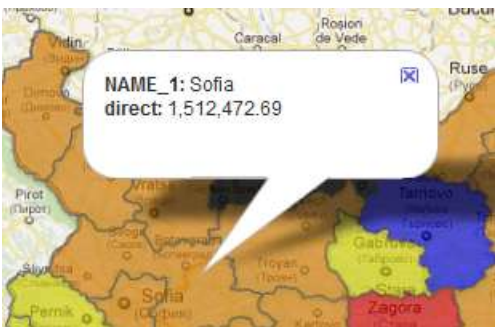
Select the columns to include in your map's info window.

<input checked="" type="checkbox"/> ID_1 <input type="checkbox"/> geometry <input checked="" type="checkbox"/> geometry_vertex_cour <input checked="" type="checkbox"/> ID_0 <input checked="" type="checkbox"/> ISO <input checked="" type="checkbox"/> NAME_0 <input checked="" type="checkbox"/> NAME_1 <input checked="" type="checkbox"/> VARNAME_1 <input checked="" type="checkbox"/> NL_NAME_1 <input checked="" type="checkbox"/> HASC_1 <input checked="" type="checkbox"/> CC_1 <input type="checkbox"/> TYPE_1	<pre> <div class='googft-info-window' style='font-family: sans-serif'> ID_1: {ID_1}
 geometry_vertex_count: {geometry_vertex_count}
 ID_0: {ID_0}
 ISO: {ISO}
 NAME_0: {NAME_0}
 NAME_1: {NAME_1}
 VARNAME_1: {VARNAME_1}
 NL_NAME_1: {NL_NAME_1}
 HASC_1: {HASC_1}
 CC_1: {CC_1} </div> </pre>
---	--

Save
Cancel

Everything with a checkmark will be included in the info window.

If we uncheck everything except “direct” and Name_1, click save and on the map click on one of the regions it now looks like this:



Much better. But there is still room for improvements.

Click again on Configure info window – and this time Click on the Custom tab:

Configure info window contents

Automatic
Custom

Write the HTML for your info window with column placeholders like {column name}. [Learn more](#)

ID_1
 geometry
 geometry_vertex_cour
 ID_0
 ISO
 NAME_0

```

<div class='googft-info-window' style='font-family: sans-serif'>
<b>NAME_1:</b> {NAME_1}<br>
<b>direct:</b> {direct}
</div>

```

We can now write exactly what we want to appear in the info window.

But instead of writing the name of the specific region we just use {NAME_1} and instead of writing the amount we just use {direct}.

So in this case – this text in the Custom box:

Automatic
Custom

Write the HTML for your info window with column placeholders like {column name}. [Learn more](#)

ID_1
 geometry
 geometry_vertex_cour
 ID_0

```

<div class='googft-info-window' style='font-family: sans-serif'>
<b>The name of the region is {NAME_1}</b><br>
<b>Amount received 2010 was: <br>{direct} EUR</b>
</div>

```

 and make the text bold.
 give a line break.

Ends up in the info window like this:



We have several ways of changing the colors of the polygons.

If you want to decide the colors yourself, you can simply in a new column (perhaps before the import to Fusion) write hexadecimal codes for the colors and then tell Fusion to look in this column for the information.

In this case, the code is in the column “Resultat”.

Kredsnr ▼	Førende blok ▼	Resultat ▼	geometry ▼
70	Blå	#3300FF	kml...
32	Blå	#3300FF	kml...
12	Rød	#FF0000	kml...

I have told Google Fusion that when I clicked Configure map styles – and “Column”:

Configure map styles

Points

Marker icon

Polygons

Fill color

Border color

Border width

Lines

Line color

Line width

Polygon background colors

[Fixed](#) [Column](#) [Buckets](#) [Gradient](#)

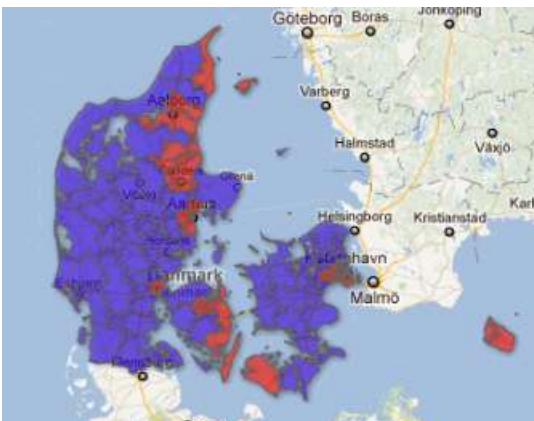
Use color specified in a column

Resultat ▼

Each row should have a color specified in this column. Example: #FF0000 is red. [Learn more](#)

[Save](#) [Cancel](#)

This is the map:



You can find safe Hexadecimal Color Codes here:

<http://www.december.com/html/spec/colorsafe.html>