Assignment 8: Creating a Thematic Map with QGIS

Table of Contents

1. Intro-fossgis-umass

1.1. Author Attribution

Major contributors to this curriculum include (alphabetical):

Maria Fernandez

Michael Hamel

Quentin Lewis

James Peters

Charlie Schweik

Alexander Stepanov

1.2. Module Licensing Information

Version 1.0.

1.3. Reviewed by

2. Assignment: Creating a thematic map with QGIS using non-spatial table with statistical data.

2.1. Assignment

Let's assume that your work as a consultant for the Police Department. You were asked to prepare a thematic map illustrating a situation with vehicle theft in the state (for the year 1999). Decision makers need such map to formulate and justify policies, resource allocation, etc.

You are in charge of this project. You have QGIS software as well as access to FossGIS spatial data server, with town boundaries spatial layer (**MaTowns**) and attribute table with crime statistics (**MaCrimeStat**).

Using tools available to you (**QGIS, pgAdmin**) prepare a thematic map showing level/rate of vehicle theft by town in the state.

2.2. Notes

Table **MaCrimStat** was derived from the table **macrimstat_orig** (which consists of the original data for the year 1999) with the following query:

```
SELECT "TOWN_ID", "TOWN", "YEAR", "MVEH_TOT_R" AS numVeh, "POP2000"
FROM "macrimestat_orig"
GROUP BY "TOWN_ID", "TOWN", "YEAR", numveh, "POP2000"
ORDER BY "TOWN"
```

The aid of this query is to aggregate data for each town as well as to select fields required for the analysis.

Table "**macrimestat**" consists (among other fields/attributes)

1. Field "**TOWN_ID**" – id of town

2. Field "**numveh**" – vehicle theft rates per 100,000 population. If there were no reports on vehicle theft, this field consists of "-1".

3. Field **POP2000** - population in the year 2000.

4. Refer to metadata (http://www.mass.gov/mgis/crime_statistics.htm) for detail information on the table structure/attributes.

5. As field names are in CAPITAL letters you need to use quotes around field names to perform queries, e.g.

```
SELECT "TOWN_ID"
FROM macrimestat;
```

Otherwise, PostgreSQL will convert field names to lower case (by default), and it will cause an error, as the table has the field "TOWN_ID", not the "town_id". Please remember use quotes if field names of a table are in UPPER CASE.

2.3. Assignment Deliverables

Please submit the following with your assignment:

1. A short description how you tackle the problem

2. SQL queries which you performed (to create a view and select data)

3. A screenshot of the thematic map.

4. A note about any problems you may have encountered while completing this assignment.

Please email a .pdf of the assignment to your instructor. You can create the .pdf by pasting the screenshots into an Open Office, Microsoft Word, etc file. If you do not have a .pdf creator, you can download a print to .pdf program, such as PDFCreator [http://sourceforge.net/projects/pdfcreator/].

2.4. Data sources

a) MassGIS http://www.mass.gov/mgis/crime_statistics.htm

please define productname in your
docbook file! Assignment 8: Creating a Thematic
Map with QGIS   3