



DATA BASE AND GIS – Practical application - Exercise

MASTER «PODEPRO

Department of Planning and Regional Development, University of Thessaly, Greece

*Vassilis Pappas,
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The educational process of the specific lesson includes, apart from the lectures in theoretical topics and the hands-on practice, the development of a GIS application concerning the spatial distribution of population characteristics in Greece.

The exercise is an obligation, to all students, in order to fulfil course's requirements, and includes and requires the followings.

SCOPE

To improve the student's skill by using selected software (ArcMap) and more specific to handle attributes tables, to calculate spatial indices, to calculate point densities and to form thematic maps.

DATA

- Polygonal GeoDataSet for Greek Municipalities ("Kallikrates") with limited thematic attributes (de facto population, resident population, 2001, 2011, etc). A modified geodataset from //geodata.gov.gr.
- Primary and Secondary Road Axes with limited thematic attributes. A modified geodataset from Greek Ministry of Infrastructure, Transport and Networks.
- Centers of Greek Settlements (1109 points) with de facto population (2001) over 1000 inhabitants. A modified geodataset from //geodata.gov.gr).
- Excel table with thematic variables for Greek Municipalities.

METHOD

Each student has to

- a) study carefully the geodatasets and the thematic table,
- b) choose from the thematic table three variables (different from other students), join them to the municipalities attribute table and to create relevant thematic maps in his/her choice.
- c) assign the values of the above mentioned three variables to the points of settlements, and to create relevant thematic maps.
- d) calculate the main spatial indices, for the previous mentioned geodataset, with and without weights (Spatial Statistics tools: spatial mean, spatial distance, spatial ellipses) and to create relevant thematic maps,

e) create a point density geodataset, applying any method he/she wants by using the point geodataset of step c, and of course to create relevant thematic maps.

Each student has to create at least 16 thematic maps. All the final thematic maps must be in jpg format, A2 size and in 150 dpi resolution.

DELIVERABLES

Before Eastern holidays each student has to prepare a CD (no printed materials are required) containing the following:

- 1) a short text describing and documenting the adopted methodology,
- 2) all the necessary geodatasets,
- 3) the mdx files with relative file and path names,
- 4) a set of thematic maps in jpg format.

For any question, additional information, etc. please sent e-mail to vpappas@upatras.gr or apply to Mr. Michalis Agorastakis.