

Week 13 Cookbook: ***About the MassGIS Project***

Week 13 Overview

- 13.1) The Topographic Map Data Frame: Legend and More!
- 13.2) How to best display the land use data
- 13.3) Land Use Changes – Visually
- 13.4) Land Use Changes – Quantitative

This week I want to share some tips and tricks to help you with your MassGIS Project. There are a series of Jings in the Week 13 folder that illustrate some of the important analysis and mapping steps.

Don't forget!

You need to send me your draft report and draft map by next Wednesday (12/01/2010). Please refer to the MassGIS Project Description in the Week 12 folder for more details.

Consider printing this cookbook for your convenience

13.1) The Topographic Map Data Frame: Legend and More!

The Jings show you several helpful mapping tips, for example:

- Group Layers to organize the data frame.
- How to make a professional legend.
- How to show the roads.
- Making a ‘key hole mask’ for your city/town.

13.2) How to Display the Land Use Data

You have two data frames for the land use data: One data frame shows the land use in 1971, the other shows the land use in 1999 – both using the 21-category classification system.

In essence, you are creating a simple choropleth map where the land use polygons are colored based on the LU21_1971 and LU21_1999 field in the attribute table. That would be a choropleth map

To make this easier, you can download the Symbolization files from MassGIS at:

<http://www.mass.gov/mgis/ftplus.htm> and download: lus_sym.exe

- Save this file into the same folder as your land use data layer, unzip, and you will see four files:

ArcGIS 9.0 layer files (21-categories, 37-categories)

ArcView 3.x legend files (21-categories, 37-categories)

For some reason I am having a hard time getting the layer files to work – maybe one of you can figure that out. In the Jing I show you how to use the old legend files to symbolize the land use data.

13.3) Land Use Changes - Visually

Now you can compare your two land use data frames – first visually. You may need to look carefully, depending on what city or town you are working on, but you should be able to visually notice some changes.

- In general, polygons shown as forest, open land, farm land, etc. typically have decreased.
- In general, polygons shown as residential, commercial, and industrial land use typically have increased.

Comparing the data frames visually is fun – and you are able to see where exactly what type of land use change occurred where in your city or town. The next step is to quantify these land use changes!

13.4) Land Use Changes – Quantitative

Basic Sequence:

- 1) Select By Attribute: to select the land use class of interest.
- 2) Show Selected: to only show you selected features in the attribute table.
- 3) Statistics: to determine the summary statistics for you selected features.

That's all you need to compare land use in 1971 and 1999. But: be careful and take your time – these steps are easy, but it is also easy to make a mistake!

The data analysis is described in Section 4 of the MassGIS Project description (Week 12 folder). Here are two simple ways to make sure that you have not made a mistake:

- Visually check your Select By Attribute on the computer screen to confirm that the correct polygons were selected in the correct data frame.
- Once you have calculated the areas for your 10 broader land use classes: add them up and compare with the total area of the city/town – they have to be the same!
- The same applies to the percentages – they have to add up to 100!
- The same applies to the percentage changes – they have to add up to zero (unless your city/town has changed in size between 1971 and 1999).