Fundamentals of GIS

Describe and Evaluate Data in a Specific Research or Decision-Making Context

This exercise provides an opportunity to demonstrate your understanding of the issues and techniques discussed in <u>Describing a Decision-Making Scenario</u> and <u>Evaluating data in a Decision-Making Context</u>. Read this one-page brief and look at the <u>demonstration example of this exercise</u> before starting. This assignment is worth 10 points. One point is for the professional appearance of the document.

- _____ Introduce yourself: What is your name and how would you prefer to be addressed? What is your degree program and year? Include a photo of yourself so I can learn everyone's name
- Explore the <u>data layers published at the MassGIS web site</u>.
- Get familiar with the <u>MassGIS On-Line Viewer (OLIVER</u>). Explore its <u>On-Line help</u> and practice adding layers, looking at feature attributes using the Identify tool. adjusting their transparency and viewing layer metadata. Use one or more of the attributes you discovered in your discussion above.
- _____ Find <u>ONE</u> dataset which you could imagine using to inform a decision involving the relationship of a couple of things and conditions that have a spatial relationship within a one-kilometer area.
- Describe a <u>hypothetical decision-making scenario</u> that considers a specific thing or condition in a specific place. Your decision-maker must consider a change that may be either due to natural processes or a possible intervention. Make a simple outline of a conceptual model that describes the relationship between things and conditions represented in your dataset data and the thing or condition that would be modified, created, or removed.
- _____ Read the metadata for your chosen layer. *In your own words*, describe, as well as you can, based on the metadata for your layer:
 - 1. What was the original purpose of the data.?
 - 2. What things and conditions were actually observed in order to create the dataset?
 - 3. Who made the observations? How were the observations made, What time period is represented in the data?
 - 4. Name at least one attribute from the dataset, Use the <u>Identify Features tool</u> to explore the attributes that were recorded for a specific place. Discuss the value for one of the attributes in a specific location.
- Use Oliver to create a map that will allow you to discuss some details of your chosen dataset in a one-kilometer square and its immediate context. **Zoom in to the map until the scale at the bottom right corner is between 1:10,000 and 1:40,000.** Don't show more territory than nee
- Adjust the layer order your layers, if necessary, so that the roads and other reference information are visible. Take a screen capture of your map and include it in your document. Include a legend, and a listing of the attribute values for a specific feature Hint: use the <u>crop tool</u> in MS Word or powerpoint or whatever document composition tool you are comfortable with.
- Use the drawing tools in your document composition tool to create diagrammatic elements (shapes or arrows) that portray the spatial mechanism that you discuss. Be careful that the shapes do not obscure context information in the map.
- Consult <u>Evaluating Data in a Decision-Making Context</u> for a deeper explanation of problems you can expect with data with regard to your conceptual model and decision-making context. Evaluate the data in terms of its fitness as a representation of specific things and conditions that you specified in your conceptual model. *But do not speak in generalities or use jargon! Speak in terms of actual things and conditions of interest that may exist in the study area you have chosen.*
- Provide a long citation for your dataset, per the guidelines provided in <u>Understanding GIS Data</u> <u>and Metadata</u>.
- Use MS Word or PowerPoint to compose your work in letter-sized, landscape format document. Images and their captions should be on the same page. Each page includes your name and the name of this course. Name your file firstname.lastname_ex1.pdf and upload the PDF to this week's drop-box.

Quick reference to important pieces of the Oliver interface.

For more explanation, see Oliver's On-Line help



Screenshots can be captured with the Windows Snipping tool



For tips on cropping images and re-arranging them in MS Word, See, <u>Layout Options in MS Word</u>. For tips on inserting graphics see <u>these tips for MS Word</u>, or for <u>PowerPoint</u>.