Guidelines for Final Project

Objective

This final project aims to provide an opportunity for you to solve a real-world problem by using the GIS analytical skills that you have learned/practiced in the class.

Requirements

A written proposal of research (~ 2 pages; font size of 12 and single line space) must be submitted.

The proposal should:

- Identify research problem
  - What are you going to do? What is the research problem?
- Introduce study area
  - What are the characteristics of the study area, especially those characteristics that prompt you to choose this area?
- Provide background information
  - What have other people done on this topic? What can you do to improve it? It is always a good idea to do some literature study. The literatures can come from a variety of sources: journal articles, conference proceedings, government reports, technical reports, etc.
- List objectives
  - What data or information are you going to produce?
- Describe data and methods
  - How would you carry out the analysis? What kind of analysis (or analyses) do you plan to use?

This project should be limited in scope and designed for completion during the time frame of this class. So, make sure your project is "doable". You need to particularly assess the time and efforts for data collection which usually causes the trouble for most GIS projects. Also, the project should have analytical component, not just about mapping (visualization) or data mining.

You are required to carry out the final project individually and independently.

Poster

Students are required to report their research project in a poster format. The poster must be submitted by the date specified in the Course Schedule. We will talk about how to make a poster in one of the lectures. Also I will provide a poster template.

Reference Sources

You may wonder how the proposal and poster should look like and exactly what content to include. So, I have created a folder – "Final Project" under "Assignments" on ELMS. In this folder, I provided some examples of students' project proposal and poster from the same class in previous years. Hopefully you will get a very good idea about what you are expected to accomplish for the final project.

Tips

When you try to collect the data for this project, it is highly recommended that you document as much details as possible about the data. Don't ever rely on metadata! Very often it does not provide enough, specific, or important information that you actually need.

You might want to create an Excel spread sheet or a table document the following information for each data layer you have collected:

- Title of the data
  - a brief description of the data
- Data Source
  - Where did you find the data? A website? A government agency? A commercial data source? A researcher? Field collection? Digitizing? You need to specify the source.
- Data Format
  - Vector? Raster? If it is vector, what feature type? If it is raster, you need to know the data format, cell size and extent.
- Data Processing
  - What are the coordinate systems used by these data? Do they all have the same spatial extent? What kind of "clean-up" you need to do? Re-projection? Format conversion? Geoprocessing?

In sum, you need to make sure the data quality is good. Otherwise, no matter how powerful the software is, if we feed garbage in, we will get garbage out. So, prepare to spend about 50% of your time on the data part and then let the computer do the rest (well, almost).