

It is preferable that you complete proposal typed in a digital copy of this document, which you will then upload to Canvas. This document is available for download in a number of formats with the rest of the class materials. Please submit your proposal by the end of Monday in Week 10 (June 5).

**Step 1: Problem Identification**

Describe the topic or phenomenon of interest (3-5 complete sentences). Describe in terms of the project's purpose, rather than the project's methods. You may include a conceptual model or high-level flowchart with the description.

State the location and extent of the study area, using political boundaries, distances, geographic coordinates, etc. The description must be unambiguous (e.g. 'western states' is ambiguous, has any number of meanings).

Primary interest (choose one):

Data Collection

GIS Analysis

Cartography

## Step 2: Data

List datasets that will be used in the project. The list should include at least five data layers (insert additional sheets as needed). At this point the proposed data layers should all be known to exist.

#	Filename	File Location (website, server)	Dataset contents
1			
2			
3			
4			
5			

**Step 2b—Data Collection Focus:** If data collection is your primary emphasis, the section above only needs to include at least three data layers. In addition to those references, describe the dataset that you will create. The description should include:

- the data model (raster, vector);
- if vector, the feature type (point, line, polygon);
- the resolution of the spatial data;
- the names, data type, and brief descriptions of the attribute(s);
- the source from which the data will be collected, measured, and/or extracted.

Evaluation will be based on existence of each of the proposed details, a properly formatted data file, and description of choices that influenced data collection in your report.

### **Step 3: GIS Analysis**

The following GIS analysis functions and tools will be used to process the data. The list should include at least three functions (e.g. selection, definition query, summarize) and at least one tool (e.g. extract values, clip, slope). For each function and tool, the list should indicate which data will be used as input.

**Step 3b—GIS Analysis Focus:** If GIS analysis is your primary emphasis, the section above should be augmented to also include one of:

- A. an analysis that sequences at least three tools;
- B. at least one complex tool that was not introduced in a lab assignment; **OR**
- C. propose the development and implementation of a GIS processing model (e.g. ModelBuilder).

Evaluation will be based on correct application of the selected functions and tools, correct interpretation of the results, and explicit justification of the choices of functions and tools in the report.

#### **Step 4: Cartography**

The final map (1 page layout, letter or tabloid size) will include each of the following main elements (in addition to the standard cartographic elements). This list should include at least two maps, with one being a context or detail map.

**Step 4b—Cartography Focus:** In addition to the two maps listed above, the cartography focus will also include a data graphic (e.g. graph, chart, or other visualization) and address one of the two following cartographic design steps:

- generalization of the features;
- complex symbology that substantially improves communication of the map's story.

This proposal should describe the contents of the data graphic and the selected cartographic design step. Evaluation will be based on appropriate generalization, the appropriate selection of symbology, cleanliness of the overall layout, and explicit justification for design choices in the report.

**The final project will be due at 12:15pm on Tuesday, June 13th.**

To turn in (digitally, via Canvas):

- The map product, as a PDF file.
- A short report describing your project and covering the details requested of your focus, no more than 1-2 pages.
  - Graduate students: this can be wrapped in with your 4-10 page paper.
- If producing a new dataset or a model, a zipped-up copy of the produced dataset/model files.