

## Capstone GIS Project

150

### Introduction with purpose

This section 1) provides readers with some context for the project; and 2) states a research question that has a geographic component. The purpose of your project is to demonstrate your ability to leverage GIS to answer your research question.

Has the student presented a concise but sufficient background AND a well-defined geographic research question?

10

If yes, then award 1 to 10 points according to quality.  
If no, then award 0 points

### Objectives

This section identifies the necessary and sufficient pieces of information needed to assemble, collect, calculate, derive, or otherwise find in order to answer your stated research question.

Based on what the student wrote, does the objective section list all the information needed to answer the research question?

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If yes, then award 1 to 10 points according to quality.  
If no, then award 0 points

### Methods and data

This section should include the cartographic model used (or a list of steps taken) to meet each stated objective. It will identify data, by source, that were collected; data that were calculated (use equations whenever possible); and data that were derived via analysis (illustrated with cartographic models). This section should reveal, *How did I accomplish my objectives?*

Based on what the student wrote, are the methods repeatable (i.e., would a GIS professional be able to reproduce the same results by using his/her cartographic model and text as a set of instructions)?

15

If yes, then award 1 or 15 points according to quality,  
If no, then award 0 points.

Based on what the student wrote, is the spatial logic sound (this doesn't mean the student chose the most efficient methods, because efficiency will vary among learners; rather, are the reported methods capable of yielding the reported result)?

15

If yes, then award 1 or 15 points according to quality,  
If no, then award 0 points.

Did the student use an appropriate spatial reference system(s) (and hence, a suitable projection method) to ensure accurate distance or area calculations? The work submitted should contain at least one statement that declares the working spatial reference system and an explanation for why it is the most appropriate.

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If yes to all, then award 1 or 10 points,  
If no to any, then award 0 points.

### Results and interpretations of those results

This section will include text, tables, or figures that present results. Table records should be sorted according to the column of interest. Maps and figures should be well built according to sound cartographic principles. Half the points (10) will reflect the quality of the results; the other half (10) will reflect the quality of the interpretations (i.e., **what do your results mean?**).

Have all the objectives been satisfied?

20

If yes, then award 1 or 20 points according to quality.  
If no, then award 0 points.

Have *all* tables and figures been properly numbered, captioned, and referenced in the text? Is each table sorted by the column of interest?

5

If yes to all, then award 5 points.  
If no to any, then award 0 points.

Have *all* reported values, either in table headers, figures, legends, or the text, been reported with units of measure?

5

If yes to all, then award 5 points.  
If no to any, then award 0 points.

### Summary and conclusion

The student should use this section to demonstrate that he or she answered the research question. The student could also identify lessons learned, successes or difficulties encountered, and new questions prompted by the research.

Did the student answer the research question AND summarize the lessons that s/he learned?

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If yes, then award 1 or 10 points according to quality.  
If no, then award 0 points.

### Oral project presentation

Did the student's final presentation offer a professional oral summary of the research question, objectives, main methods (main challenges; not all the button clicks), interpretations of key results, and the findings?

20

If yes, then award 1 to 20 points according to the quality of the oral presentation.  
If no, then award 0 points.

### Digital web map or web map app

Does the digital product look professional (i.e., content is meaningful, text was proofread, style is consistent, links work, etc.)?

30

If yes to any, then award 1 to 30 points according to quality of the shared product.  
If no to all, then award 0 points.

### Cite your sources (The *GEO-ESS Department Writing Guide* lists our expectations / standards.)

0

AUTOMATIC PENALTY (-30 points) for not citing your sources of literature, data, or salient facts.

### A failure to plan is a plan to fail

0

AUTOMATIC PENALTY (-30 points) for changing your research question after October 23, 2018.