

Capstone GIS Project

150

Introduction with background and purpose

This section 1) provides readers with context or background for **why** the student is doing this project; and 2) states a research question with a geographic component. The purpose is to demonstrate your ability to use 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 **what** necessary and sufficient pieces of information are needed to answer the research question.

Based on what the student wrote, does the objective section list the general tasks that need to be accomplished?

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

Methods and data

This section should reveal **how** you accomplished your objectives. It should include an annotated cartographic model (best) or a list of steps taken (2nd best) to meet each objective. It will identify data sets (with citations), data that were collected; data that were calculated (use equations); or data that were derived via geoprocessing (report parameter and environment settings).

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.

- 10 If yes, then award 1 or 10 points depending on quality.
- If no to any, then award 0 points.

Based on what the student submitted, are the methods repeatable (i.e., would a reasonable GIS pro be able to reproduce the same results by using the cartographic model(s) 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 submitted, 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 show evidence the s/he pushed themselves by self-learning new tools or skills not covered in GIS1, 2, or 3?

- 10 If on par with GIS2, add 5 points. If on par with GIS3, add 10 points. If advanced, award up to 20 points.
- If less than GIS2, then subtract 10 points for lack of effort.

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?

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

Have all reported values (in table headers, figures, legends or the text) been reported with correct 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?

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

Oral project presentation

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

- 15 If yes, then award 1 to 15 points according to the quality of the oral presentation.
- If no, then award 0 points.

Digital story map

Does the story map look professional (i.e., relevant content, good cartography, text was proofread, logical flow, etc.)?

- 25 If yes to any, then award 1 to 25 points according to quality of the shared product.
- If no to all, then award 0 points.

A failure to plan is a plan to fail ([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.
- 0 AUTOMATIC PENALTY (-30 points) for changing your research question after Feb. 19, 2020 without permission.