Final Paper Guidelines – ESSM 462 – Advanced GIS

Your final paper is a culmination of your research during this class. It will demonstrate the significance of your research project and its value to the scientific literature. You are encouraged to revise and reuse text that you received feedback on from your previous submissions. When you need an example, go to the journal of one of your references and see how papers in that journal deal with your question.

Sections: Title, Abstract, Introduction, Methods, Results, Discussion, References

Format: Double-space, line numbers, page numbers, section headings, times new roman, 12pt font.

Basic Outline
- Title
- Abstract
  1. Motivation
  2. Problem statement
  3. Approach
  4. Results
  5. Conclusions
- Introduction
  1. Topic area
  2. Research question
  3. Significance to knowledge
  4. Previous research
  5. Interlocking findings and Unanswered questions
- Methods
  1. Data collection
  2. Analytical techniques
  3. Suggested interpretation of possible outcomes
- Results
  1. State your findings
  2. Figures and tables
- Discussion
  1. Interpretation
  2. Evidence to support claim
  3. Findings and previous research
  4. Implications
  5. Future research
- References
The Sections of the Proposal – detailed advice

Title
This should be descriptive. A good title will clue the reader into the topic.

Abstract
Abstracts are windows into the content of the research paper that you are presenting to your readers. In order to entice readers to continue to read your paper, you need to hook the reader and provide concrete reasons for why your paper is important. Important components to an abstract include motivation (why should we care about the problem and the results?), problem statement (what problem are you trying to solve?), approach (how did you go about solving it?), results (what did you find?), and conclusions (what are the implications of your answer?).

Introduction
The introduction provides a brief overview that tells a well-informed (but perhaps non-specialist) reader what the proposal is about. It should be very clearly written and it should let one assess whether the research is relevant. Setting the topical area is a start but you need more, and quickly. Get specific about what your research will address. Question - Once the topic is established, come right to the point. What are you doing? What specific issue or question will your work address? Very briefly (this is still the introduction) say how you will approach the work. What will we learn from your work? Background and state of our knowledge - Situate your research in the context of what is already known about a topic. It need not be exhaustive, yet it should provide the theoretical basis for your work, show what has been done in the area by others, and set the stage for your work. Significance - Why is this work important? What are the implications of doing it? How does it link to other knowledge? How does it stand to inform policy making? This should show how this project is significant to our body of knowledge. Why is it important to our understanding of the world?

Methodology
Data Collection - This includes the field site description, a description of the instruments you used, and a detailed description of the data that you collected. The emphasis in this section should be to fully describe specifically what data you used in your study. Part of the purpose of this is to allow others to repeat what you have done and they should be able to replicate your results. Data Analysis - This section explains in some detail how manipulated the data that you assembled to get at the information that you used to answer your question. It will include statistical or other techniques and the tools that you used in processing the data. It should also include an indication of the range of outcomes that you could reasonably expect from your observations and how you will interpret them.

Results
This section is a commentary of exactly what you observed and found. You have to determine which results effectively answer your research question and how to present
Those results. It is not a place for discussing the interpretation of your results. The results should be written in sequence. You should follow the sequence of manipulation and analysis that you presented in the methods section. For each result, there should be methods about how you obtained that result. This section is typically where you refer to your tables and figures. Use past tense when you refer to your results. Number tables and figures in the same order that they appear in the text of your paper.

Discussion
The purpose of this section is to state your interpretations of the results. Most importantly, you should answer the questions that you posed in the introduction and explain exactly how your results support that answer. In addition, this section is an important place to set your findings in the context of previous research in your field. Explain the implications of your findings and make suggestions for future research. Explain what should be done next regarding your research question and how should the next study approach that.

References
This is the list of the works that you actually cite. Use a standard format from a discipline specific journal.