

Final Project Assignment

Group-forming Guidelines

A group consists of 1-2 people. That means work by yourself or with a partner!

Project guidelines

This is a very open-ended project. You will be allowed to pick any research question and answer that question using any of the methods covered during the semester. Be careful, however, not to overshoot or undershoot your abilities. When you consider research questions, be sure to only choose questions you think you know how to solve either by yourself/as a team or with a reasonable amount of help from Brent.

Specifically, your research project must meet the following requirements:

- Must require *at least* 3 lab sessions' worth of work.
- Specific research question(s) must be defined.
- Must include collecting (either primarily or secondarily) and/or storing, querying, analyzing, and presenting geographic information.
- Can be part of work for another class project (total overlap not allowed!).

Your deliverables will include the following:

- Due April 21st: Research question
 - You must get research question(s) approved before you start work on your project. This is to prevent you from procrastinating and also to ensure that you do not pursue a project that is beyond the scope of your ability.
- Due May 18th at midnight : A 5-page (for individuals) or 10-page (for teams) research paper that includes:
 - an abstract to summarize key points;
 - an introduction that includes research questions and basic information about the subject matter;
 - a methods section that includes methods and data used. Some questions to consider include: How did you gather or from where did you obtain the data? Why did you choose those data sources for your project? How did you answer your research question(s)? Which tools did you use? You do not need to document every single step, but anyone that reads your paper should have a clear understanding of what you did and be able to repeat the steps you took;
 - an analysis section in which you analyze the results of your project. Does your analysis answer your research question? What are the advantages and disadvantages of the methods and data you used? Did you encounter

- any problems? How reliable are your results? What factors influence the reliability of your results?;
- a conclusion in which you summarize your project and discuss what has been learned. Additionally, discuss any additional analysis you would have liked to do if you had the skills, time and data to pursue it;
 - maps and graphs either incorporated in the document or in an appendix;
 - a bibliography with properly cited material (see your instructor's research papers for examples);
 - Your paper should be double spaced, 12 point font, with margins no greater than 1 inch top and bottom and 1.25 inch left and right.
 - For examples of research papers, look at the curriculum vitae of your instructor on their website.
- Due May 18th: A presentation (e.g., PowerPoint file) sent to Brent. We will then have all slides ready to go on the computer on May 19th.
 - Present the paper you wrote in a 10-minute presentation during the finals period (May 19th, normal class time) using PowerPoint. Your presentation will be followed by a few minutes of questions. Practice, practice, practice! Time yourselves, and then practice some more.
 - For teams: you may delegate one person to deliver the presentation or you can do it as a team.

The best projects will clearly demonstrate your understanding of material presented in the lectures. Carefully review the lectures for concepts you can demonstrate. You may use the previous labs as guides, but you cannot use the exact same data. Census data is acceptable should you choose to use it; just choose variables with which you have not already worked.

There is a significant amount of freely available GIS data on the Internet. A partial list of data sources and general GIS resources can be found on at the following websites:

<http://www-sul.stanford.edu/depts/gis/web.html>

<http://gis.ca.gov/>

<http://www.fao.org/geonetwork/srv/en/main.home>

<http://igskmncnwb015.cr.usgs.gov/adds/>

<http://www.usgs.gov/pubprod/data.html#data>

And many others... Google is your friend