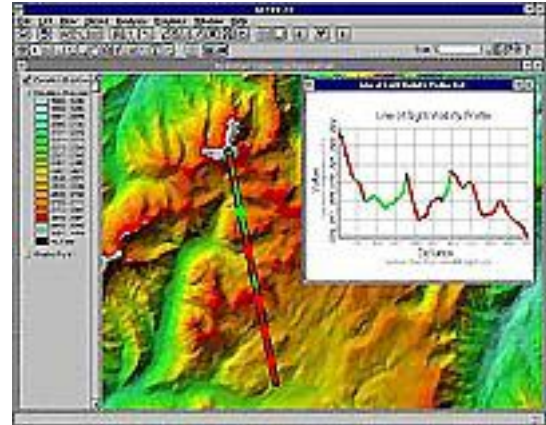


GIS Landscape Modeling

Project 3 — Individual Project

Learning outcomes

1. Apply advanced GIS modeling procedures involving landscape, its patterns and features that present opportunities and limitations for human use
2. Develop descriptive and predictive models that contribute to your research, studio projects, or outreach project
3. Make effective modeling decisions in a project situation
4. Evaluate ArcGIS and other software and apply them to your modeling needs
5. Use Spatial Analyst or other helpful extensions and scripts
6. Document analysis procedures and results in writing and graphics
7. Practice presentation skills by sharing your results with the entire class



Expectations

1. We want your modeling work to be valuable to *you*, by--
 - Addressing a modeling need that you currently have
 - Exploring modeling alternatives and comparing results
2. We want your modeling work to be valuable to *our class*, by--
 - Creating models that incorporate measures and concepts from GIS literature/precedents
 - Including appropriate descriptive and predictive models
 - Providing detailed instructions that help class members with similar tasks
 - Giving us some insight into your modeling interests
 - Explaining your modeling procedures and results to our class in a clear, concise way
3. We want you to incorporate modeling concepts from GIS literature
4. We expect you to make appropriate use of GIS software and extensions
5. We want you to use data management strategies that make your database efficient to use
6. We want your modeling results to inform your own work in a powerful way
7. We expect your modeling to be a pilot study, that is--
8. We expect your modeling to be complete for a small study area, rather than incomplete for a large study area

Procedure

1. Write a one-page proposal using the following outline (due Wednesday, Oct. 14)
 - A. Spatial questions and modeling objectives
 - B. Analysis needs and modeling software
 - C. Data needs
 - D. Modeling procedures, tasks
 - E. Schedule

2. Develop your models by consulting appropriate sources: books, articles, interviews
3. Start building your database using existing data sources
4. Define your modeling procedures using the analysis functions and software you selected
5. Apply your modeling procedures to your database
6. Document your modeling procedures and results in a written report
7. Present your modeling procedures and results to the class using PowerPoint

Requirements

1. PowerPoint presentation limited to an 8-10 minute period, followed by 5-7 minutes of questions and discussion
2. CD or DVD with modeling documents (MXD), PPT file, and complete database
3. Include in your presentation and report a thoughtful critique of modeling tools
4. Detailed written report (MS Word) using thesis format and items A through R (described in "Course Requirements" on page 2 of "Course Description and Syllabus" 567descr09.PDF)

Schedule

Oct 12/14/16	Develop proposal; list data needs
Oct 19/21/23	Examine/collect data;
Oct 26/28/30	Develop and test models and functions
Nov 2/4/6	Apply modeling procedures to data
Nov 9/11/13	Evaluate modeling results; more modeling
Nov 16/18/20	Prepare mini-presentations of preliminary models using PowerPoint
Nov 18	<i>World GIS Day</i>
Nov 23/25/27	Break
N / D 30/2/4	Work on final presentations
Dec 7/9/11	Present final PowerPoint presentations (Dead Week)
Dec 16	Reports and CD/DVD due Wednesday noon (Finals Week)

Grading criteria

- 20% Modeling (appropriate use of concepts, approaches, and procedures)
- 20% Database (appropriate data, formats, file organization)
- 15% PowerPoint presentation (organization, illustrations)
- 10% Oral presentation (organization, introduction, conclusions, time limit)
- 25% Written report (completeness, explanations, clarity, organization, mechanics)
- 10% Conclusions/critique of modeling tools (software and extensions)