

Lab 6: Generalization (8%)

Data Sources: The National Map, USGS 2010.

Section:	Tues	Wed	Thurs
	Nov.	Nov.	Nov.
Assigned:	9	10	11
Work period:	16	17	18
Due:	Nov.	Dec.	Dec.
	30	1	2

Assisted by Jim Thatcher. Data processing by Douglas Minnigh.

The goal of this laboratory assignment is to work with a selection of generalization tools in ArcGIS to gain the ability to adjust detailed geographic data to suit display at smaller scales.

Cartographic concepts:

- simplification and smoothing of lines and polygons
- amalgamation of nearby polygons
- refinement through elimination of small and less important features
- setting generalization parameters and critiquing resulting output
- sequencing generalization operations

New tools and skills:

- simplification tools
- smoothing tools
- aggregation tools
- select by attributes to retain larger or more important features
- measure tool
- fixed scale in data frames
- ArcCatalog for data maintenance

Map requirements and grading criteria:

- map includes hydrography (flowlines, waterbodies, swamps), roads, and populated place points with suitable symbols reflecting categories and hierarchies
- map includes at least **ten generalization problems at 1:100,000 scale** that you identify
- lines and polygons for all features are **well generalized** for 1:100,000 display
- a one-page layout is retained (as provided)
- minimal labels for major populated places, roads, and hydrographic features for context (you needn't turn this into a big labeling task)
- detailed documentation of generalization tool sequence and parameters chosen for final result (as point-form list or table)

Deliverables:

1. one map page black-and-white (or color) with frame 1 at 1:40,000 and frames 2 and 3 at 1:100,000
2. summary of generalization needs for original data at 1:100,000 (i.e. the ten problems you marked on your data frame 2)
3. detailed listing of generalization tools and settings, feature selection, and feature elimination used and order of operations applied to layers