Discussion of Session F-4: Geospatial Techniques

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All four presentations in this session are descendants of concepts and topics in the *Statistical Atlas of the United States*, published by the Census Bureau in 1870 and 1890. The *Atlas* is a remarkable compilation of maps and other visualizations covering demographic, economic, health, government finance, and natural resources topics, and is worth reviewing as we consider ways to improve the analytical and visualization methods we apply to geographical analysis.

The presentations reflect a growing demand for detail and accuracy stimulated by geographic information systems that allow anyone with a web browser to drill into geospatial data and see if their back yards are properly represented. The demand for detail is even greater for subjects like transportation and the spread of public health problems that involve interactions among regions. Instead of providing statistics on n locations, agencies must populate an n-squared matrix.

The seemingly unrelated topics of this session demonstrated common problems of geospatial analysis across disciplines, such as small area estimation challenges for missing cancer data that are similar to challenges of disaggregating freight flow estimates to the county level. The session underscored the value of learning from each other the availability and quality of geospatial data that can be applied to many public issues, better ways to summarize geographical patterns and network performance, methods to characterize individuals by their surroundings versus methods to analyze the affects of surrounding on individuals, and strategies for democratizing geospatial data and spatial analysis tools.