Closing Panel Discussion: Geospatial Statistics – Data, Tools and Analyses

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FCSM Workshop on Geospatial Statistics

October 16, 2015

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U.S. DEPARTMENT OF LABOR

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Acknowledgements and Disclaimer

The discussant thanks the authors for the opportunity to review their materials for this workshop; and thanks many colleagues for helpful discussions of geospatial statistics over the past three decades.

The views expressed here are those of the author and do not necessarily reflect the policies of the U.S. Bureau of Labor Statistics.

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Overview: Fascinating Group of Papers Presented Today

Panel Questions from the Organizers:

1. State of spatial data and investment in spatial tools?

2. Areas of good progress – success stories?

3. Opportunities?

4. Achievable next steps?

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Overview (Continued)

Begin with Context through Questions on:

I. Stakeholder Information Needs

II. Ways that Geospatial Data, Tools and Analyses Address Those Needs

III. Contributions of Geospatial Approaches to Improving the Balance of Quality, Cost and Risk

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I. Stakeholder Information Needs

What are predominant stakeholder information needs?

Who are the stakeholders (policymakers, operations, journalists, general public)?

Context within which they understand, interpret and use data, including geospatial data? Uncertainty measures?

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II. Ways that Geospatial Data, Tools and Analyses Address Those Needs

How do the stakeholders use geospatial data?

Ex: Specific decisions?

Ex: Broad contextual understanding of a phenomenon?

What would stakeholder do differently (better or less well) with enhanced (or reduced) geospatial information?

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II. Addressing Needs (Continued)

1. Descriptive statistics:

    a. Presented at finer (coarser) level

    b. With smaller MSEs (modeling effects)

    c. With (without) spatial adjacency displayed?

    d. With (without) other visualization tools?

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II. Addressing Needs (Continued)

2. Model parameters:

   a. Aligned with specific spatially-linked mechanisms (e.g., flow of pollutants; social networks)

   b. Characterizing degree of spatial homogeneity of processes ("interesting differences")

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III. Improving the Balance of Data Quality, Cost and Risk

A. Statistical agency goal: Balance quality, cost and risk

B. Standard quality dimensions (e.g., Brackstone, 1999)

accuracy, relevance, timeliness,
comparability, coherence, accessibility

1. Try to link the properties of spatial statistics with most (all?) quality dimensions?

2. Link (B.1) with concrete stakeholder value?

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III. Balance of Quality, Cost and Risk (Continued)

C. Spatial issues linked directly with risk and cost?

1. Risk:
   a. Loss of, or major change in, geospatial data?
   b. Model failure? Detection?

2. Cost:
   a. Geospatial data acquisition, cleaning, mgmt
   b. Related production systems:
      Development, implementation, maintenance
   c. Personnel

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