Utilizing Interdisciplinary Geospatial Research Methods for Analysis

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**Issue/Problem**

- Value of spatial relationships, patterns, have a long history across many disciplines.
- Ability to integrate different types of information/data relatively recent
- Using Geographic Information Systems (GIS) enables one to actively consider space and place
Interdisciplinary

Ability to integrate different disciplines and approaches together.
Integrated Data
Thinking Spatially
Sociospatial Thinking

Sociospatial:

an integrated examination of space, place and social indicators in a holistic fashion (Steinberg and Steinberg 2009).
Sociospatial Thinking

1. Perceptions of a local issue
2. Find appropriate existing data
3. Visualize your data
4. Groundtruth your data
Inductive or Deductive Thinking?

Begin with Data

End with Theory

Begin with Theory

End with Data used to test a hypothesis
Sociospatial Grounded Theory: A New Approach to Research Methods

1. Determine a topic of interest
2. Determine a geographic location of interest
3. Collect the data (qualitative, spatially linked and social data).
4. Geocode the data.
5. Ground truth the data
6. Analyze the data and look for spatial and social patterns.
7. Generate theory (spatial and social).
Step 1: Determine geographic location of interest
Step 2: Collect data & Geocode Data
3. Collect the data
Step 4: Geocode the Data

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<th>Zip_Code</th>
<th>Respondent</th>
<th>Question_1</th>
<th>Question_2</th>
<th>Question_3</th>
<th>Question_4</th>
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Zip_Code, Respondent, Question_1, Question_2, Question_3, Question_4

55113, A, 4, 3, 5, 5
55401, B, 2, 4, 3, 3
55112, C, 5, 4, 4, 5
Step 3: Ground Truth the Data
Step 4, 5: Analyze the data & look for spatial/social patterns
Step 7: Generate Theory

- World War II
- Location of author of the diary
- Proximity to various ethnic groups
- Proximity to military bases
- Author of diary
- Patriotism
- Economic Hardship
- Emotional Stress
Integrated Data
Multiple Methods

Using multiple methods enables the researcher to triangulate the situation.
Interdisciplinary Spatial Approach - Advantages
1. Visualization
2. Communication
3. Implementation
4. Contextualization
5. Integration
Conclusion

- Being able to use GIS helps to create multiple views of a situation/problem/issue
- Enables one to see the “big picture”
- Fosters better decision-making
- Enables clearer communication around issues