Applying ArcGIS Spatial Analysis Techniques to Make Better Decisions

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Topics Covered

- Introduction to spatial analysis
- ArcGIS spatial analysis
- Demos and examples
- Take away points
Spatial Analysis is about Solving Problems

- What is inside an area?
- What is nearby?
- Where are the events concentrated?
- Where do things move over time?
- Why things occur where they do?

- How can we estimate values for a whole area?
- What is a suitable location for ...?
ArcGIS Spatial Analysis

3D Analysis
Python
Vector Analysis
Model Builder
Raster Analysis
Network and Geocoding
ArcGIS Online
Documentation and Resource center
Statistical Analysis
Overarching themes of ArcGIS Spatial Analysis

- Improve the science of geospatial analysis
- Make it easy to use
- Make it more accessible
Improve the science of geospatial analysis
What’s the distribution?
Density analysis
Finding quantity by area

Summarizing by area
Identifying Clusters

Hotspot analysis
Finding percentage area
Tabulate Intersection
Interpolation to area

Empirical Bayes Kriging
What is the best place for ...?

Suitability analysis
Where is the best place to have a new vineyard?

Slope
Distance to Road
Elevation

Weight and add together:
New Vineyard = ([Slope] * 0.35) + ([Elevation] * 0.45) + ([Distance] * 0.2)
What is nearby?

Proximity analysis
Where is the closest hospital to accidents?
Why things occur where they do?

Regression Analysis
What contributes a school’s API score?
Enrich data with demographic content

Prepare data for analysis
How do I get the variables for analysis?

<table>
<thead>
<tr>
<th>School</th>
<th>Total Population</th>
<th>Diversity Index</th>
<th>Total Households</th>
<th>Median Household Income</th>
<th>Average Household Income</th>
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[Image of a table showing data related to schools and various metrics like total population, diversity index, total households, median income, and average income.]
Make it easier and more accessible
Spatial analysis on the web
Take away points…

• Spatial analysis brings the true power of GIS. It is our core competence

• ArcGIS spatial analysis capabilities help users to make better decisions with sophisticated analytical tools

• Providing spatial analysis online reduces the learning curve and helps to reach a wider audience
Thank you...

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Paper – pick up and put in drop box
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