



# Applying Spatial Analysis Techniques to Make Better Decisions

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## Many analysis sessions available throughout the conference...

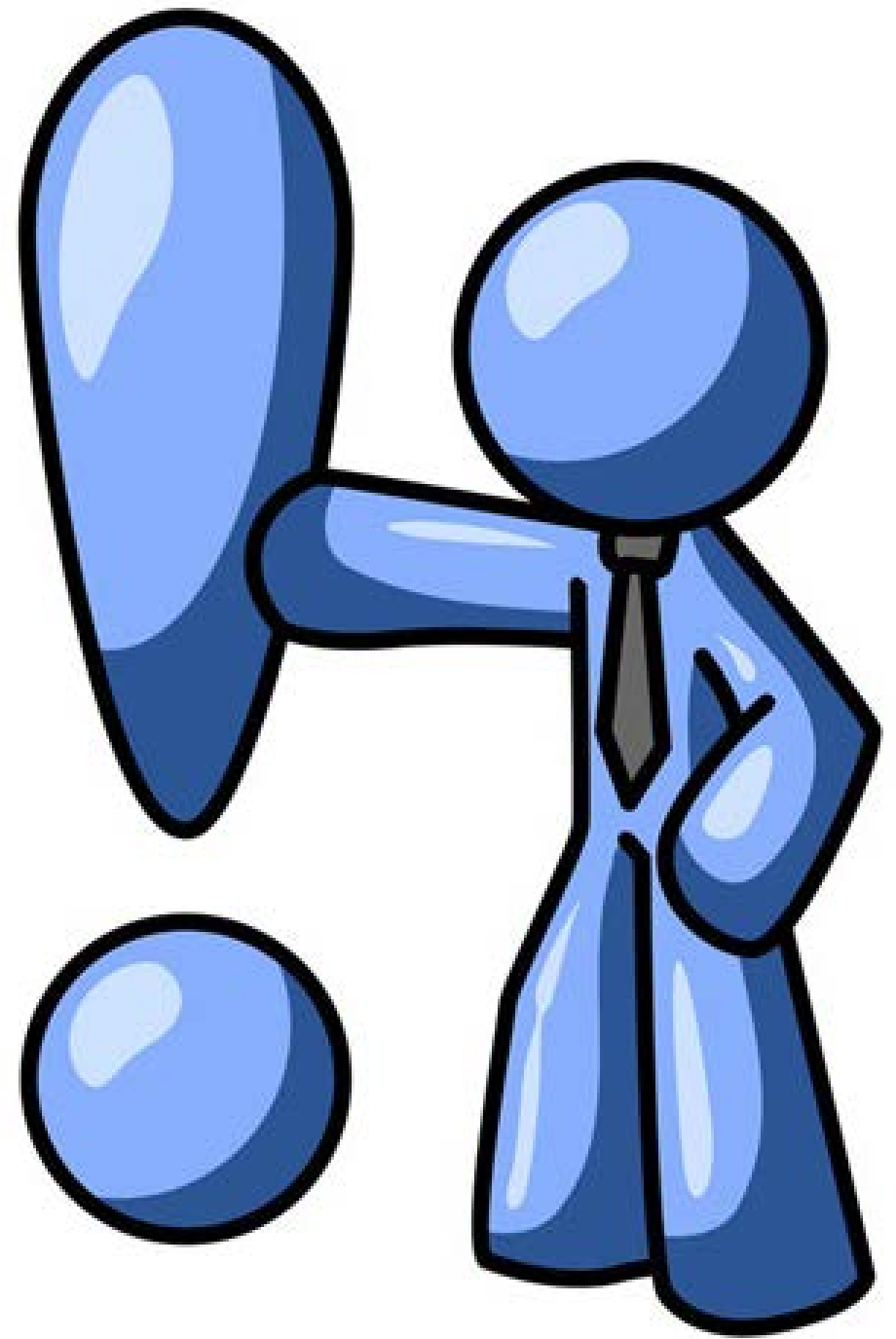
- **Spatial Analyst: Getting Started**
- **Network Analyst: Introduction**
- **Geostatistical Analyst: An Introduction**
- **Concepts and Applications of Kriging**
- **3D Analyst: An Overview**
- **Python: Building Geoprocessing Tools**
- **Analyzing Multidimensional Scientific Data in ArcGIS**
- **Spatial Data Mining: A Deep Dive into Cluster Analysis**
- **Beyond Where: Modeling Spatial Relationships using Regression Analysis**
- **Introduction to ArcGIS Online Spatial Analysis**
- **GeoPlanner: Web-based site suitability analysis with Weighted Raster Overlay Services**
- **Applying Spatial Statistics: The Analysis Process in Action**

**[esriurl.com/analysisUC15](http://esriurl.com/analysisUC15)**

# Topics

- Introduction to spatial analysis
- Demos and examples
- Takeaway points

# Introduction

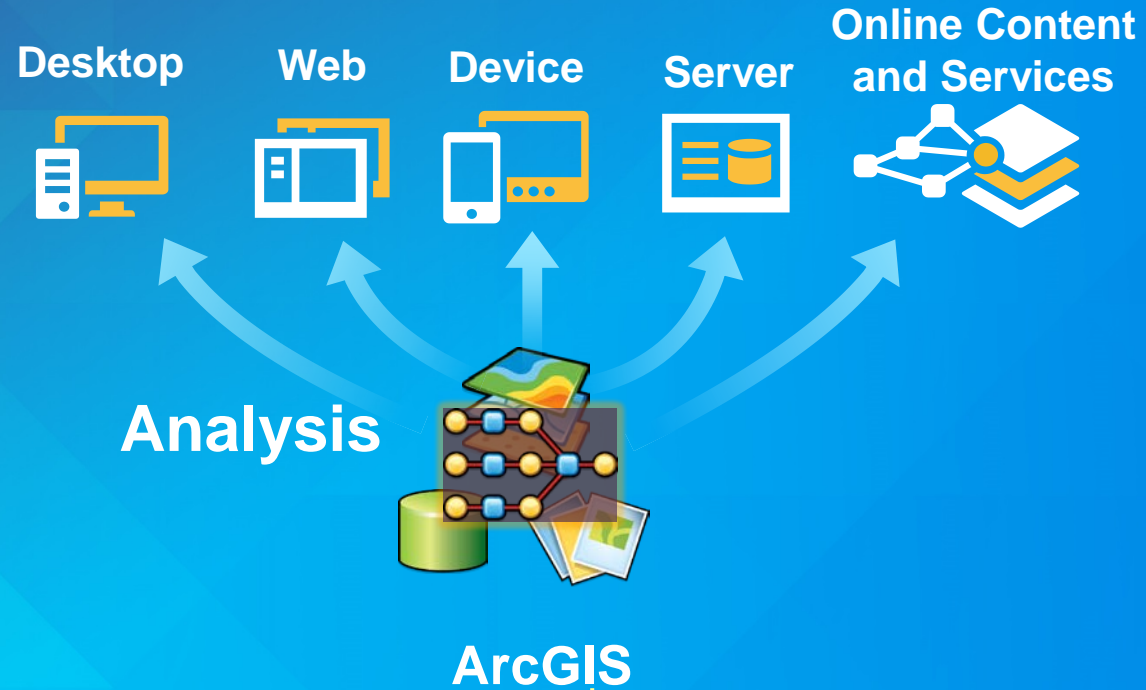


# ArcGIS: a complete GIS platform

- Online
- Desktop
- Server
- Mobile
- Developer
- Solutions



# Across the ArcGIS Platform



3D  
Analysis

Python

Documentation and  
Resource center

Vector Analysis

Model Builder

Network and  
Geocoding

Raster Analysis

Statistical Analysis

# Spatial Analysis

- Analyze spatial data to address a question or gain useful knowledge

How Can We Estimate Values For A Whole Area  
Why Things Occur Where They Do  
What Is Nearby  
**What Is Inside An Area**  
Where Are The Events Concentrated  
Where Do Things Move Over Time  
What Is A Suitable Location For

# Spatial analysis = problem solving





# Demos & Examples



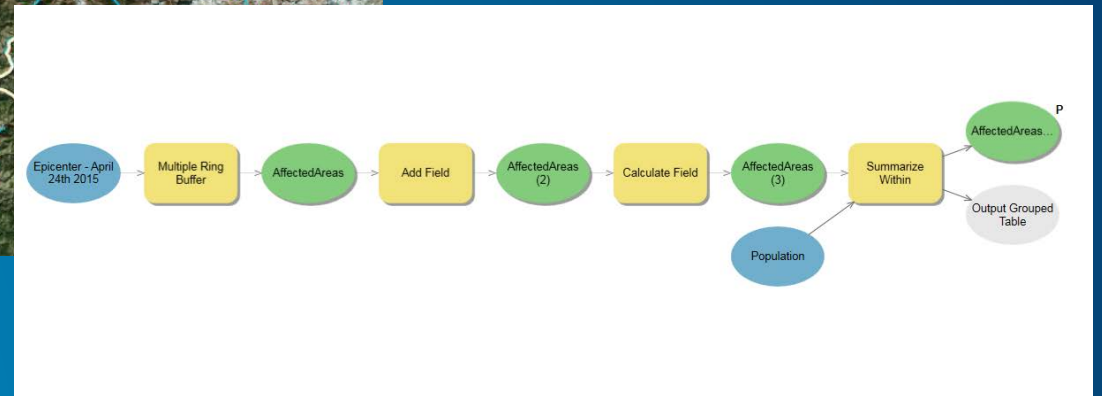
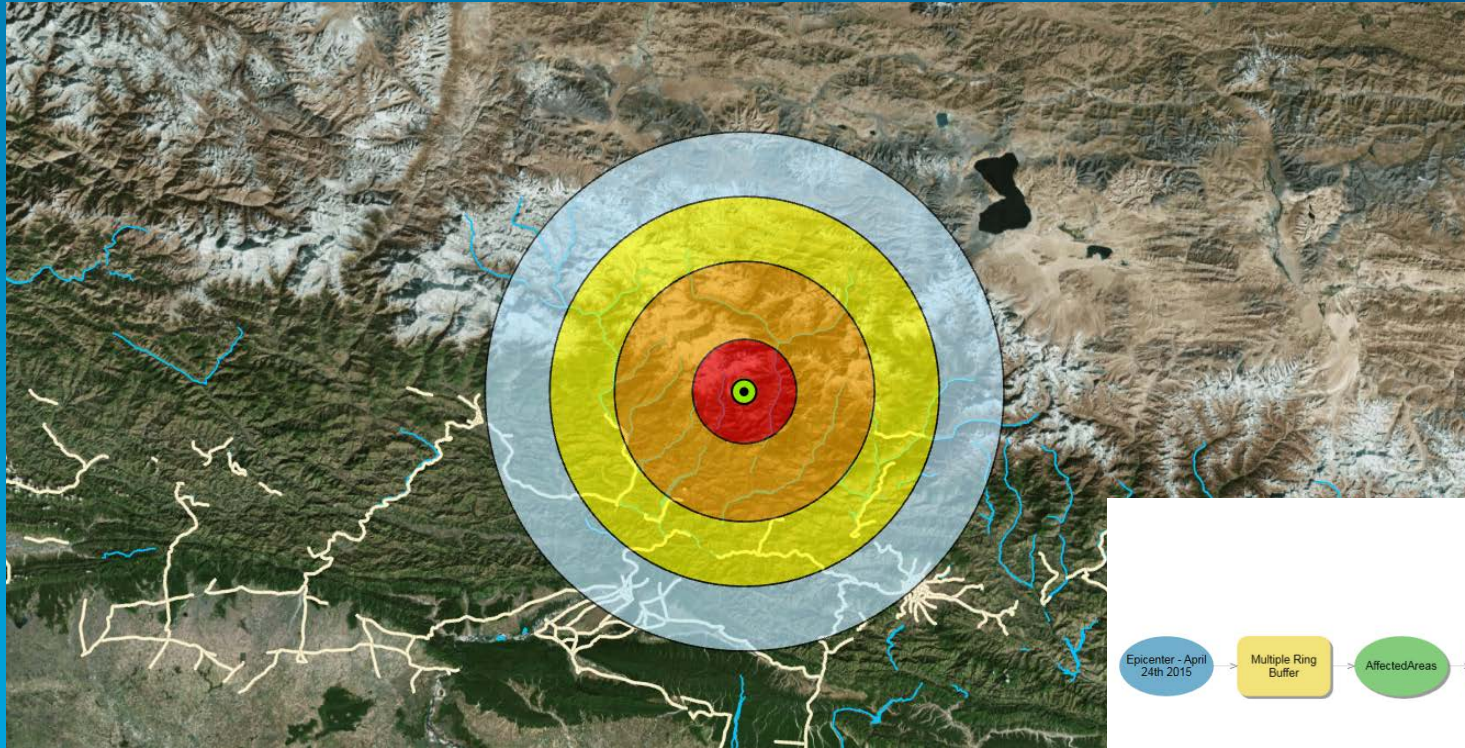
Demo

# Multiple Ring Buffer and Automation

Proximity Analysis and ModelBuilder

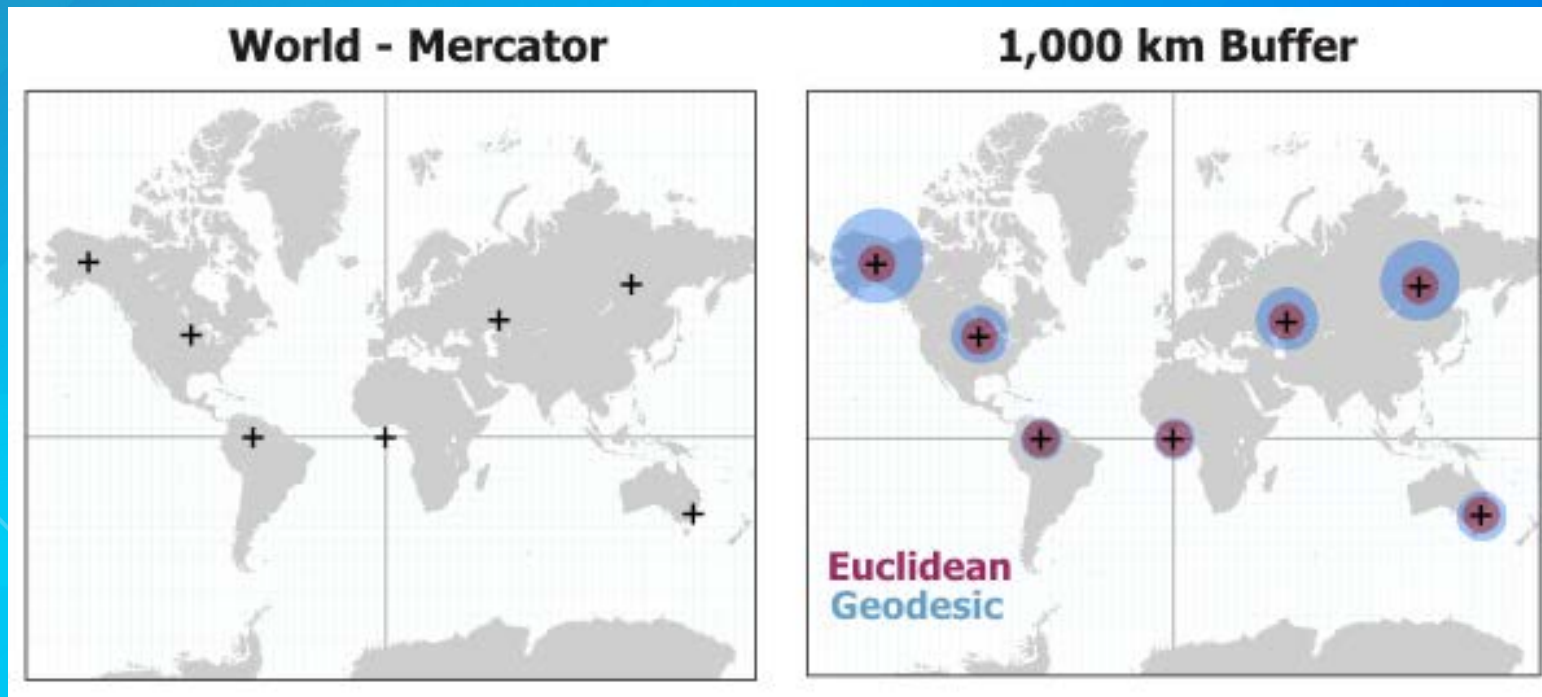


# Access Earthquake Impact



# Geodesic Buffer

- Geodesic buffers account for the earth's actual shape in the calculation of the buffers
- Geodesic buffers are not affected by the distortions introduced by projected coordinate systems



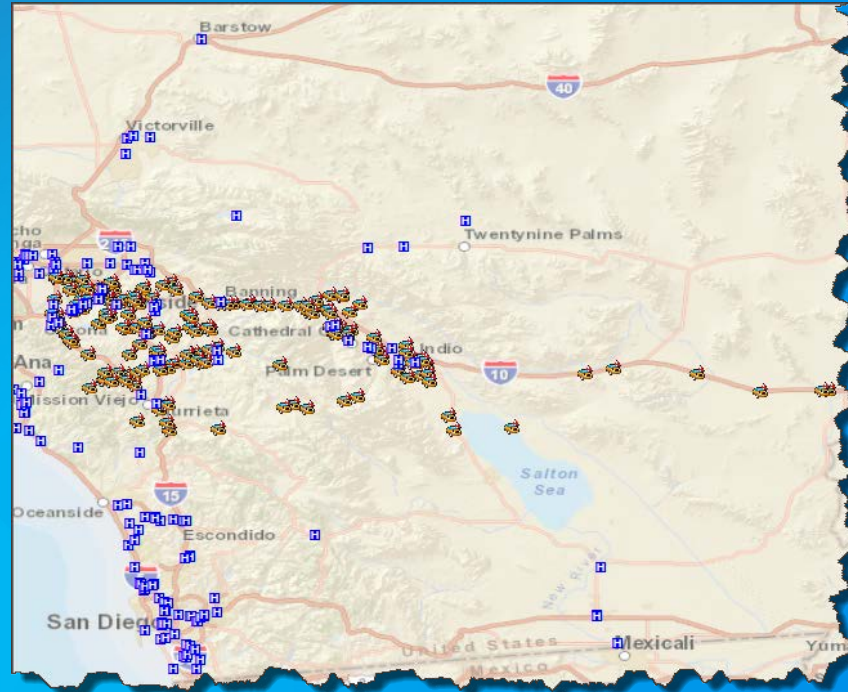
Demo

# What is nearby?

Proximity analysis



# Where is the closest hospital to accidents?



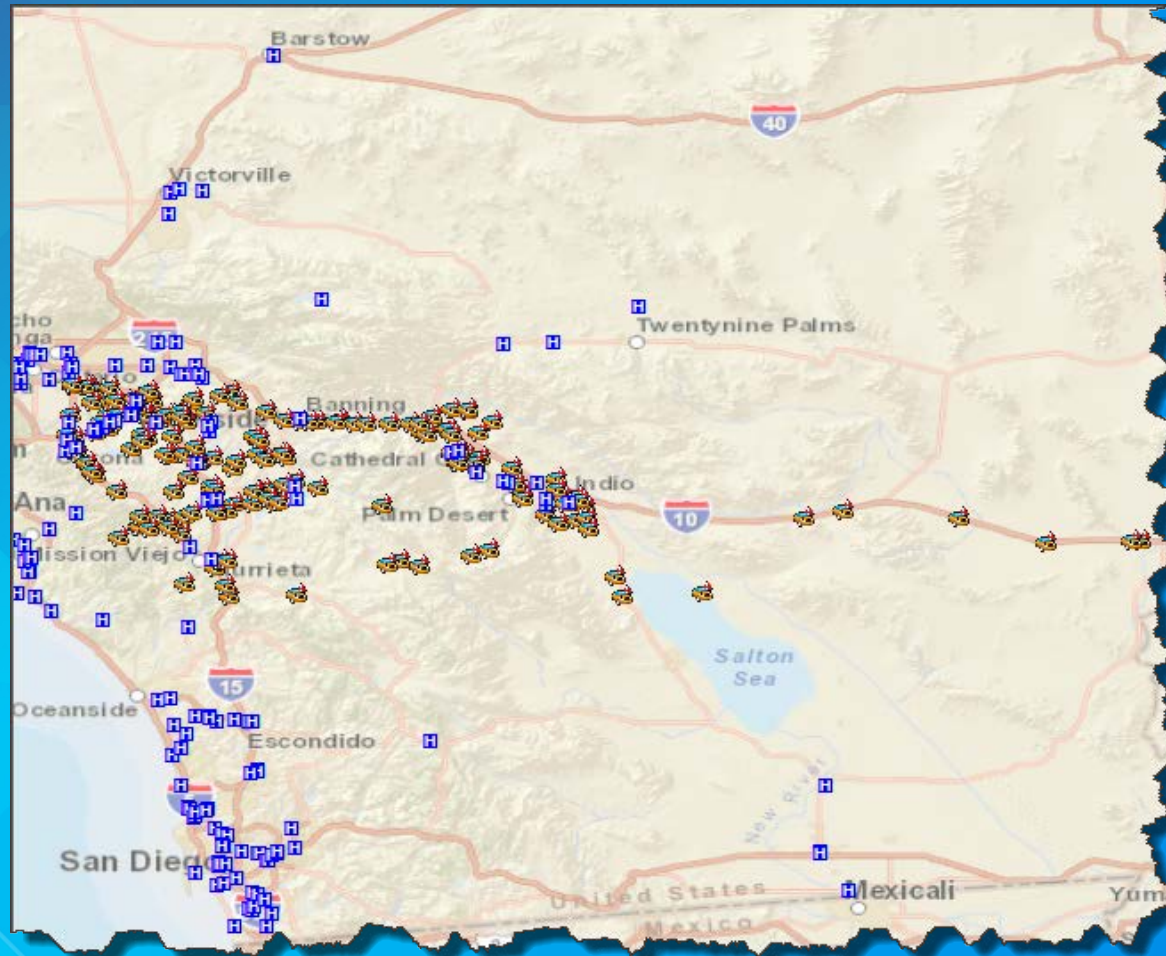
Demo

# Proximity analysis online

ArcGIS Online - Find nearest



# Where is the closest hospital to accidents?





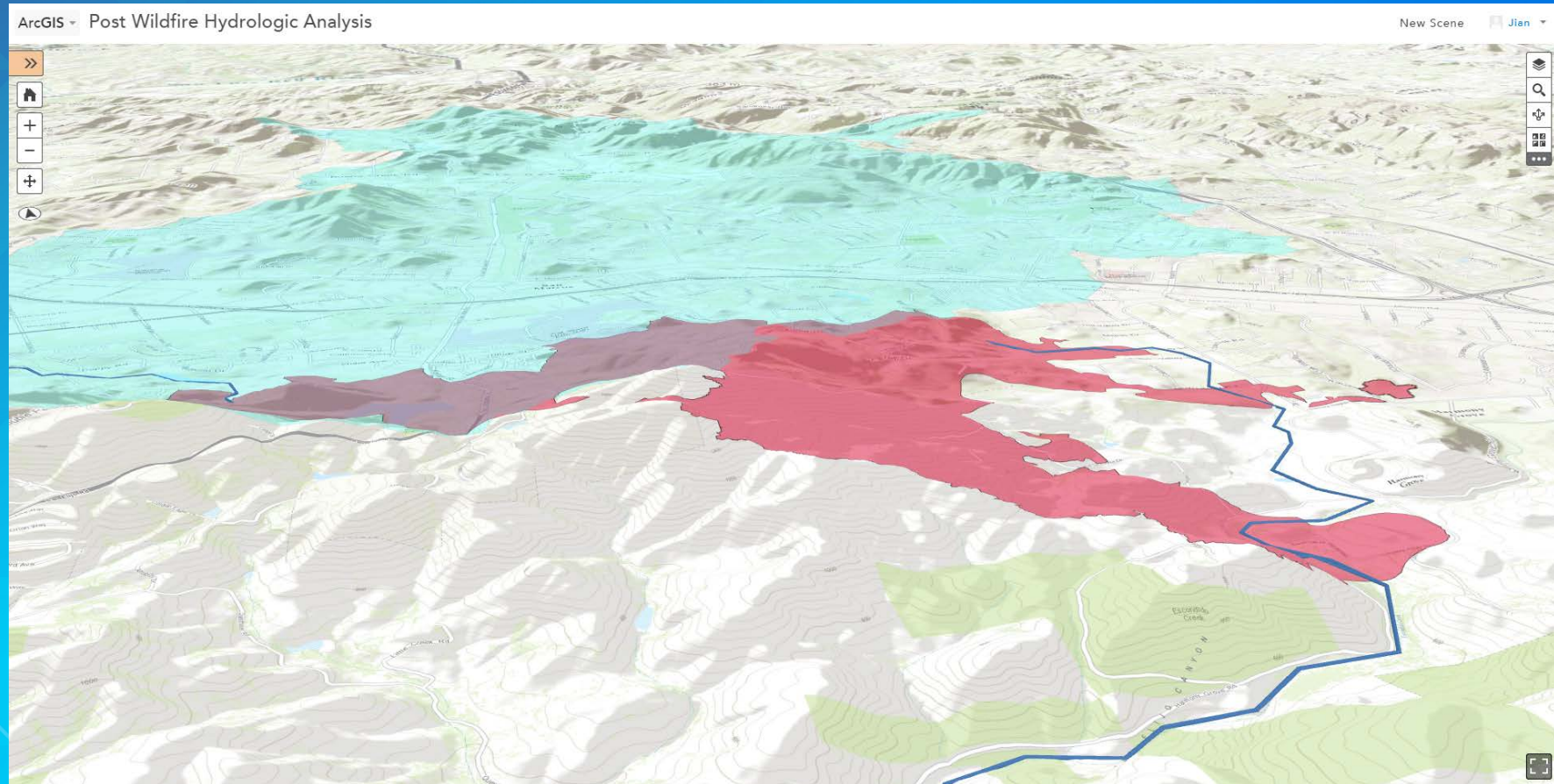
Demo

# Create Watersheds Trace water flows

Elevation and Hydrological Analysis



# Post Wildfire Hydrologic Analysis



Demo

# Enrich data with demographic content for analysis

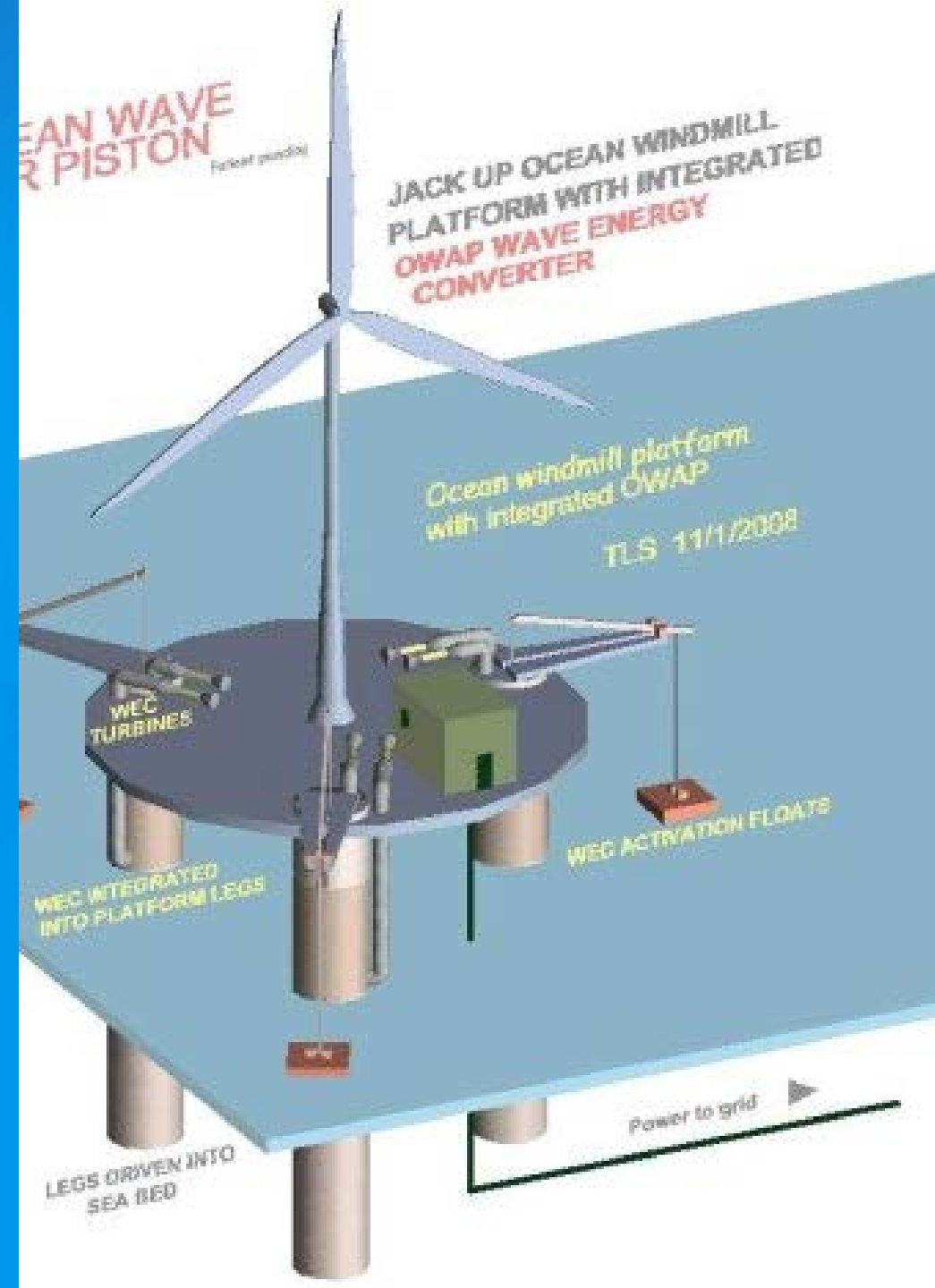
Geoenrichment



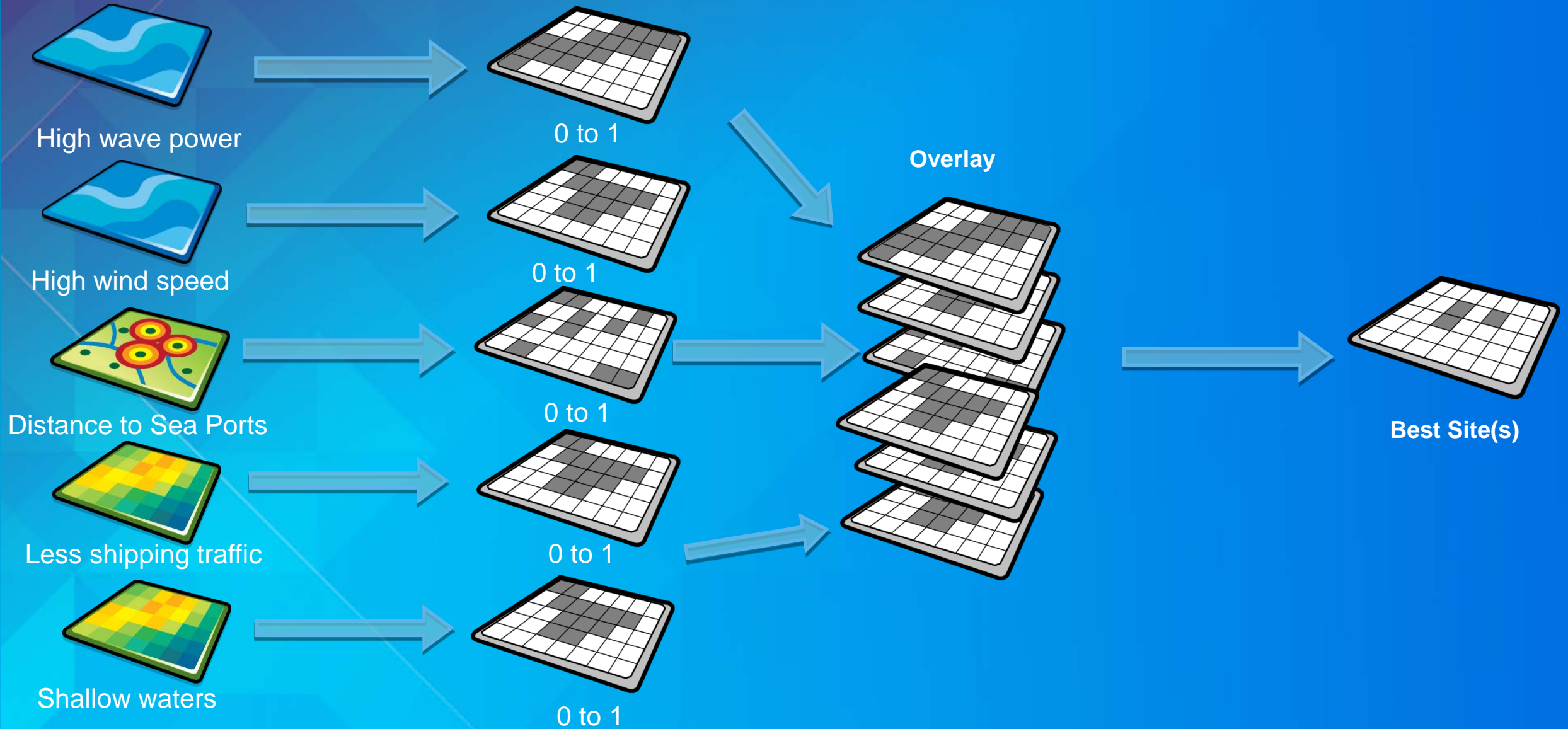
Demo

# What is the best place for ...?

Suitability analysis



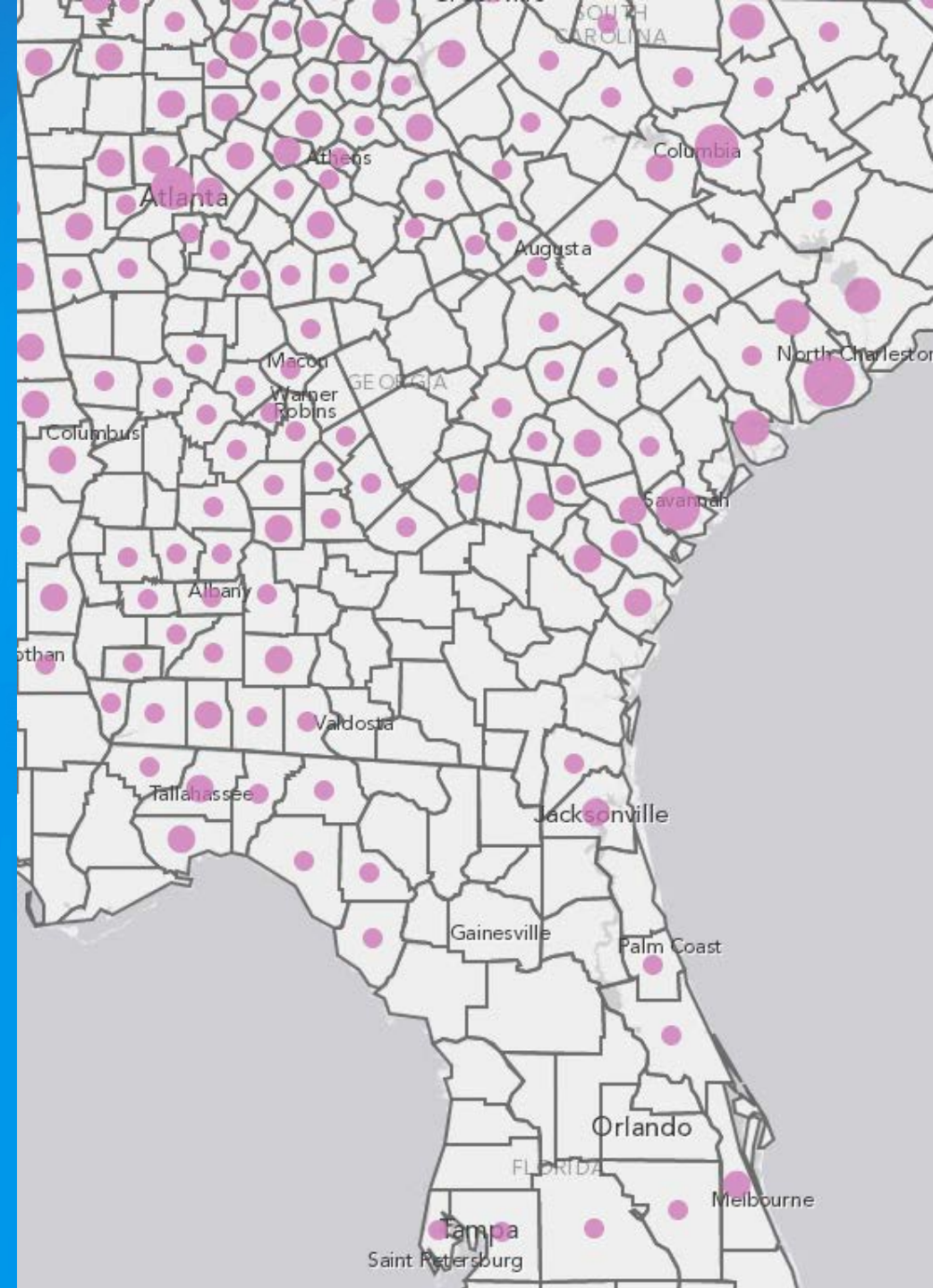
# Where is the best place to build a wind farm in the North Sea area?



Demo

# Finding quantity by area

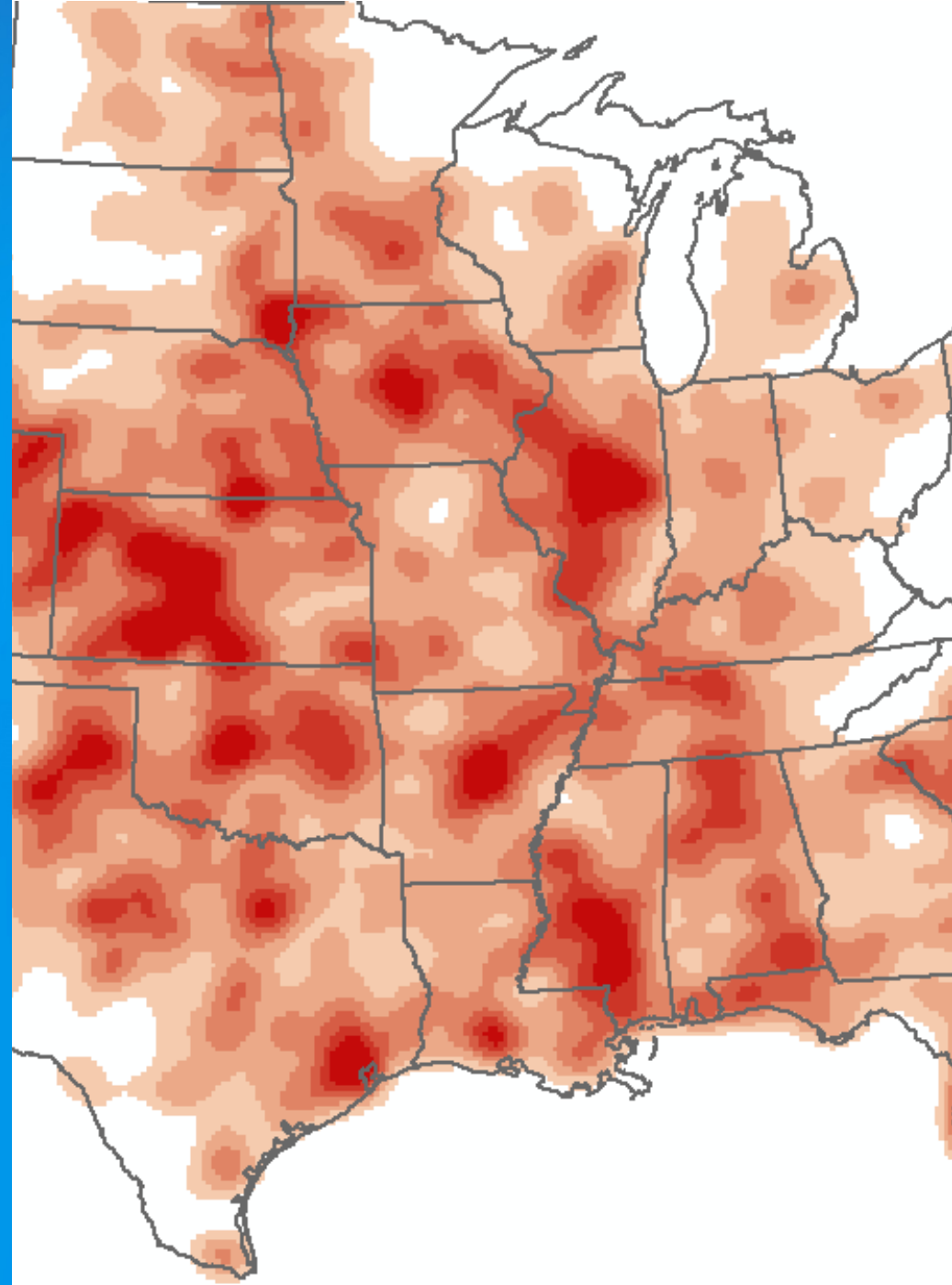
Summarizing by area



Demo

# What's the distribution?

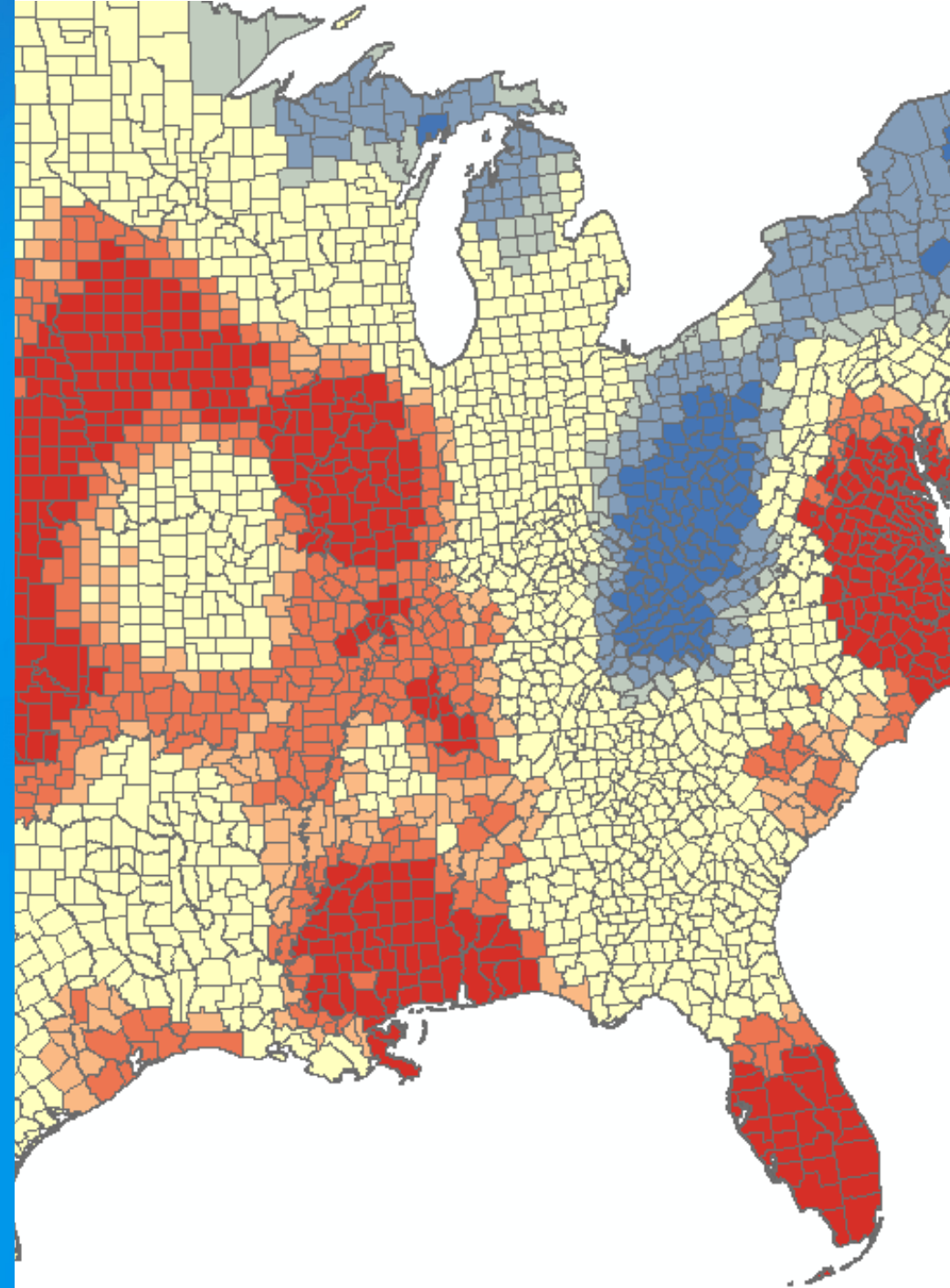
Density analysis



Demo

# Identifying Clusters

Hotspot analysis

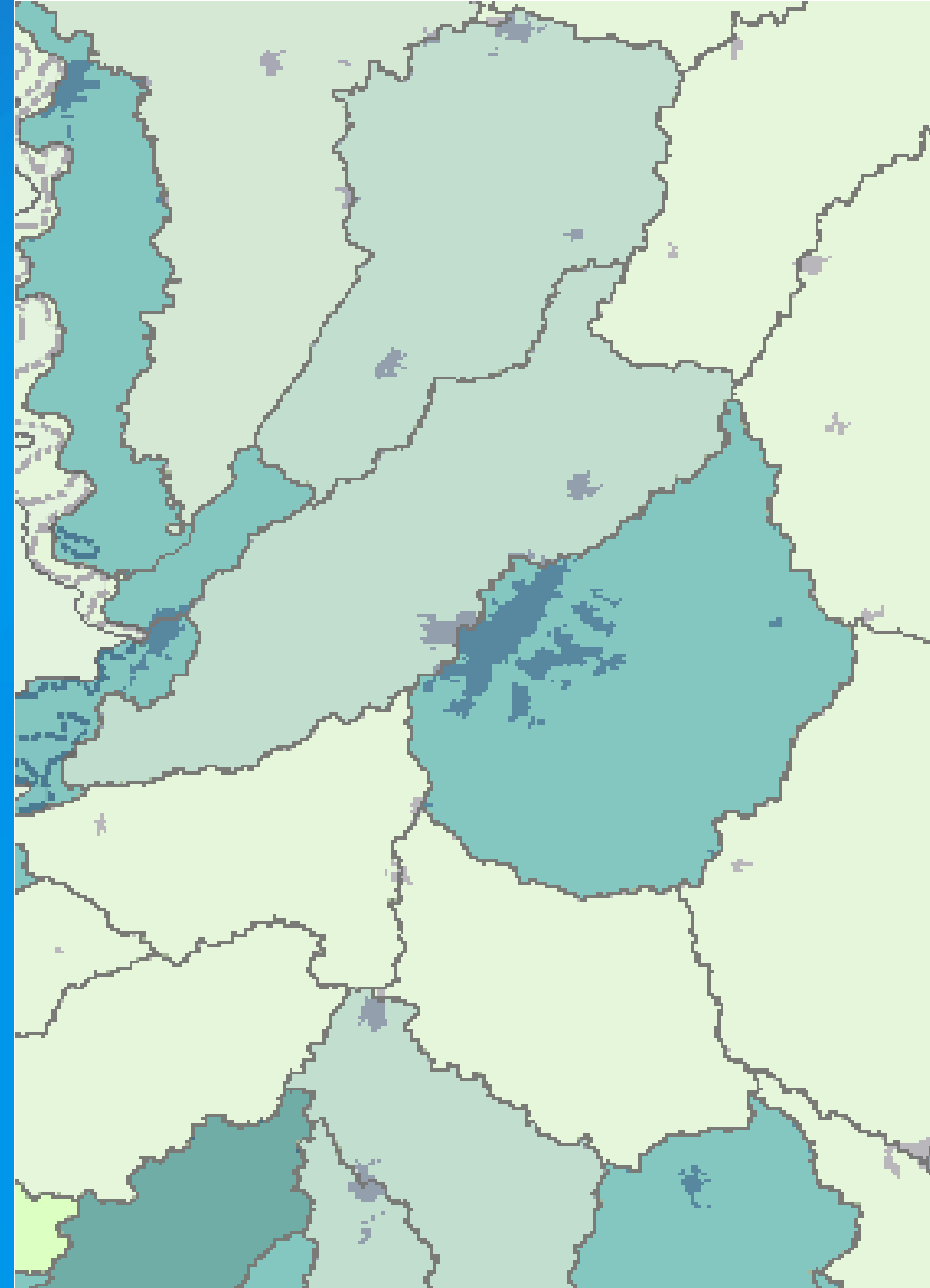




Demo

# Finding percentage area

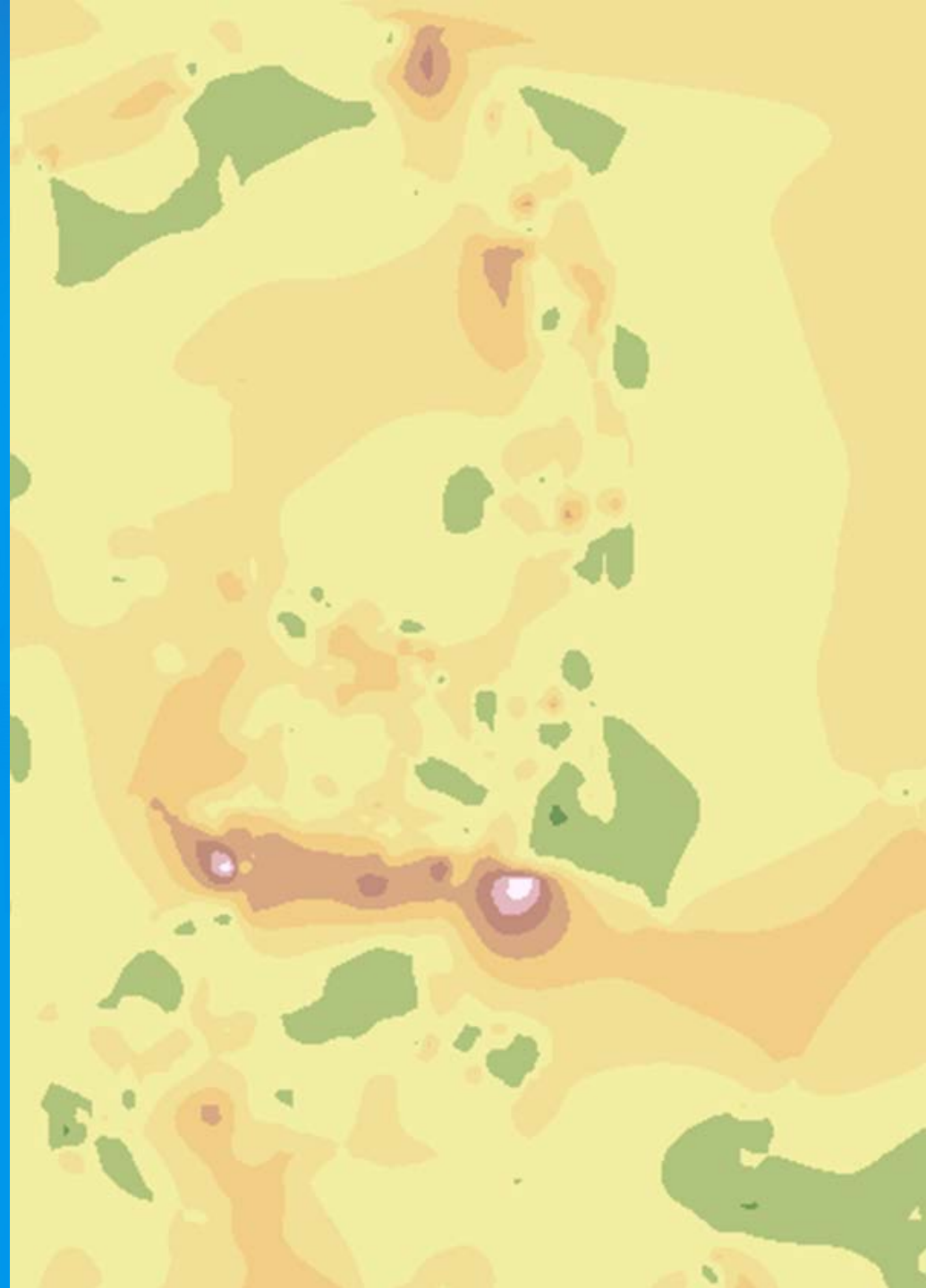
Tabulate Intersection



Demo

# Interpolation to area

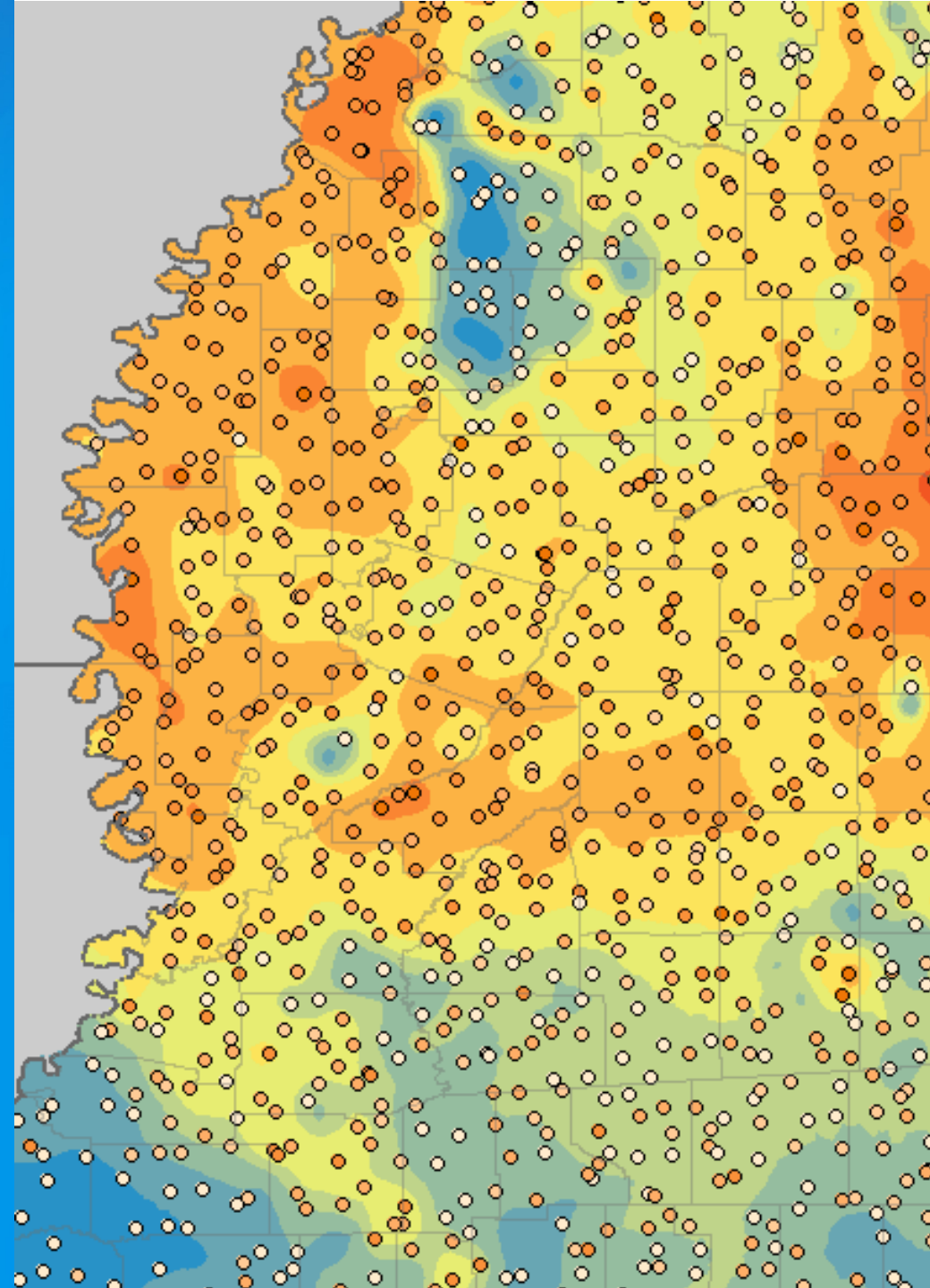
Natural Neighbor and IDW



Demo

# Interpolation to area

Empirical Bayes Kriging



## Takeaway 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**

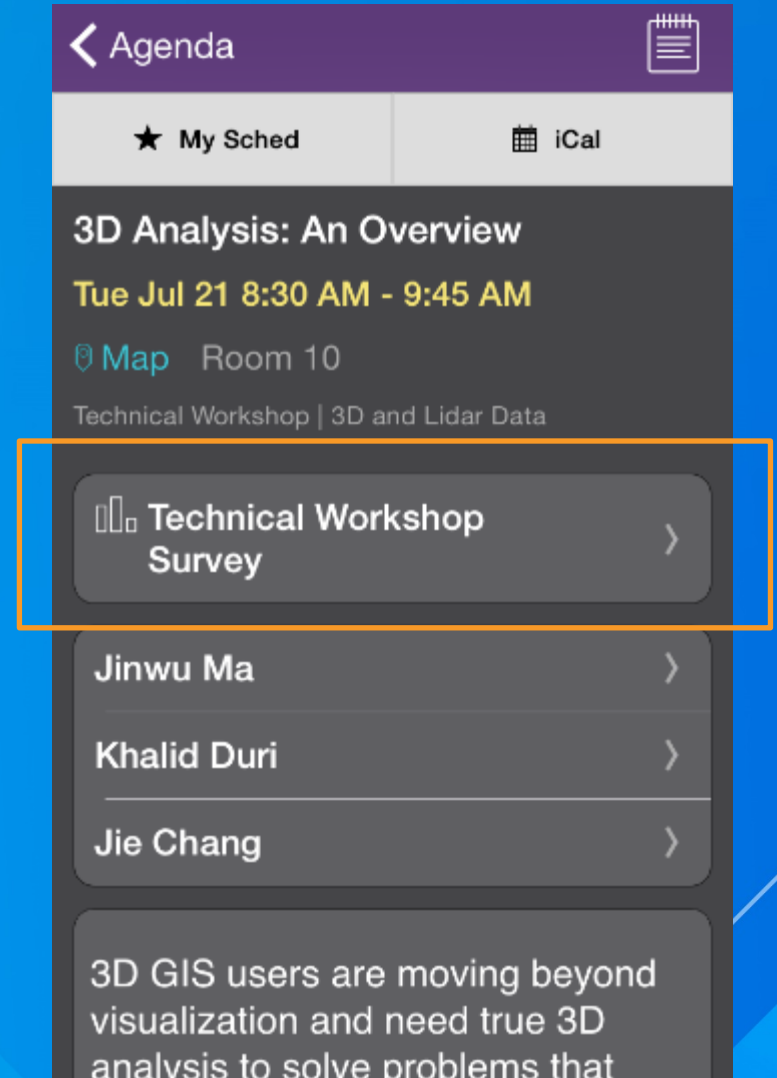
# Thank you...

## Applying Spatial Analysis Techniques to Make Better Decisions

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  - Use the Search Feature to quickly find this title
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments

## Paper – pick up and put in drop box

Some paper surveys available for those without devices





Understanding our world.