Spatial Analysis with Web GIS

Brad Owens

Agenda

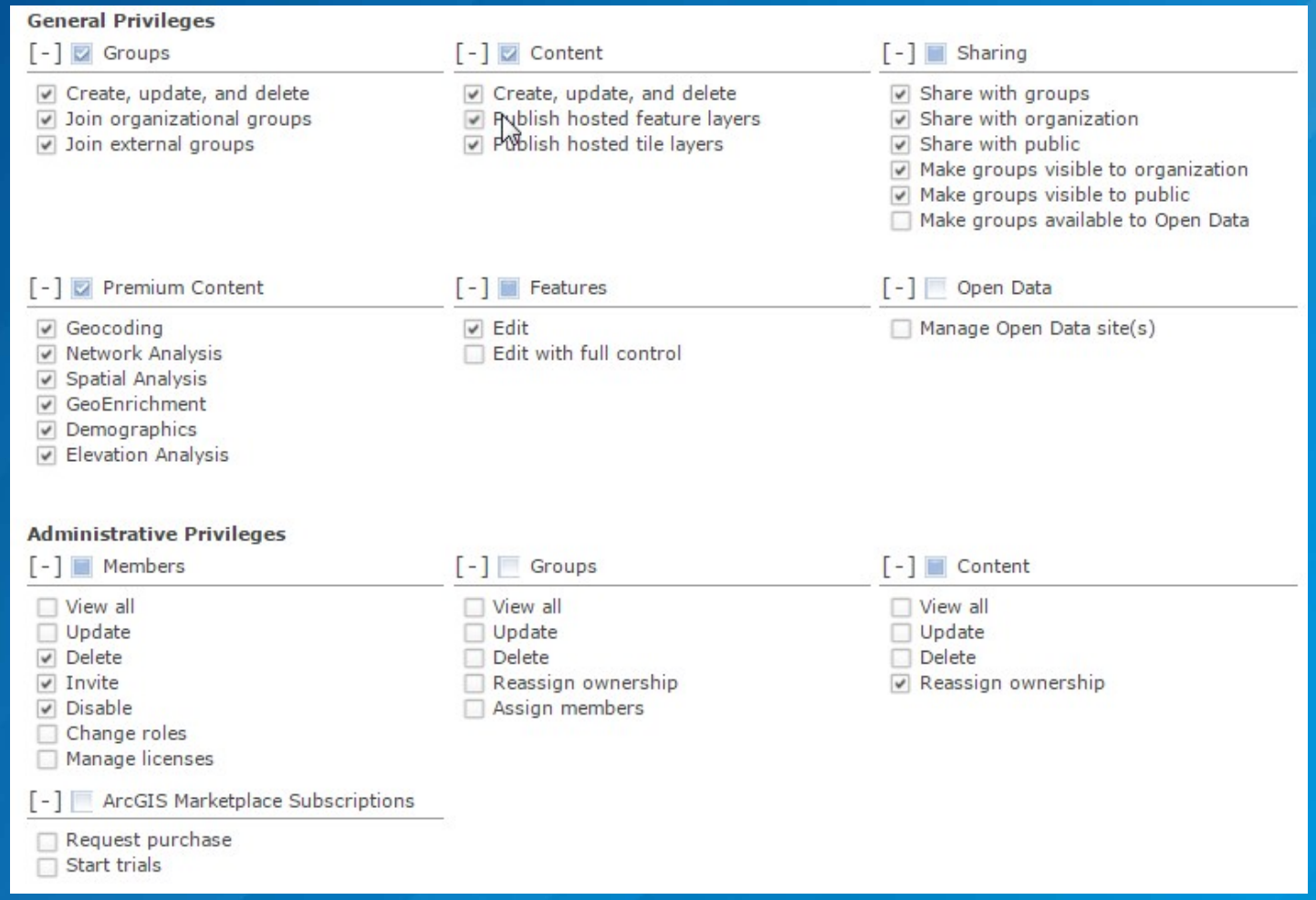
- Introducing ArcGIS Online Spatial Analysis
- ArcGIS Online Spatial Analysis Workflows
- Scenarios
- Wrap Up
- Resources

ArcGIS is a Platform

Making mapping and analytics available across your organization

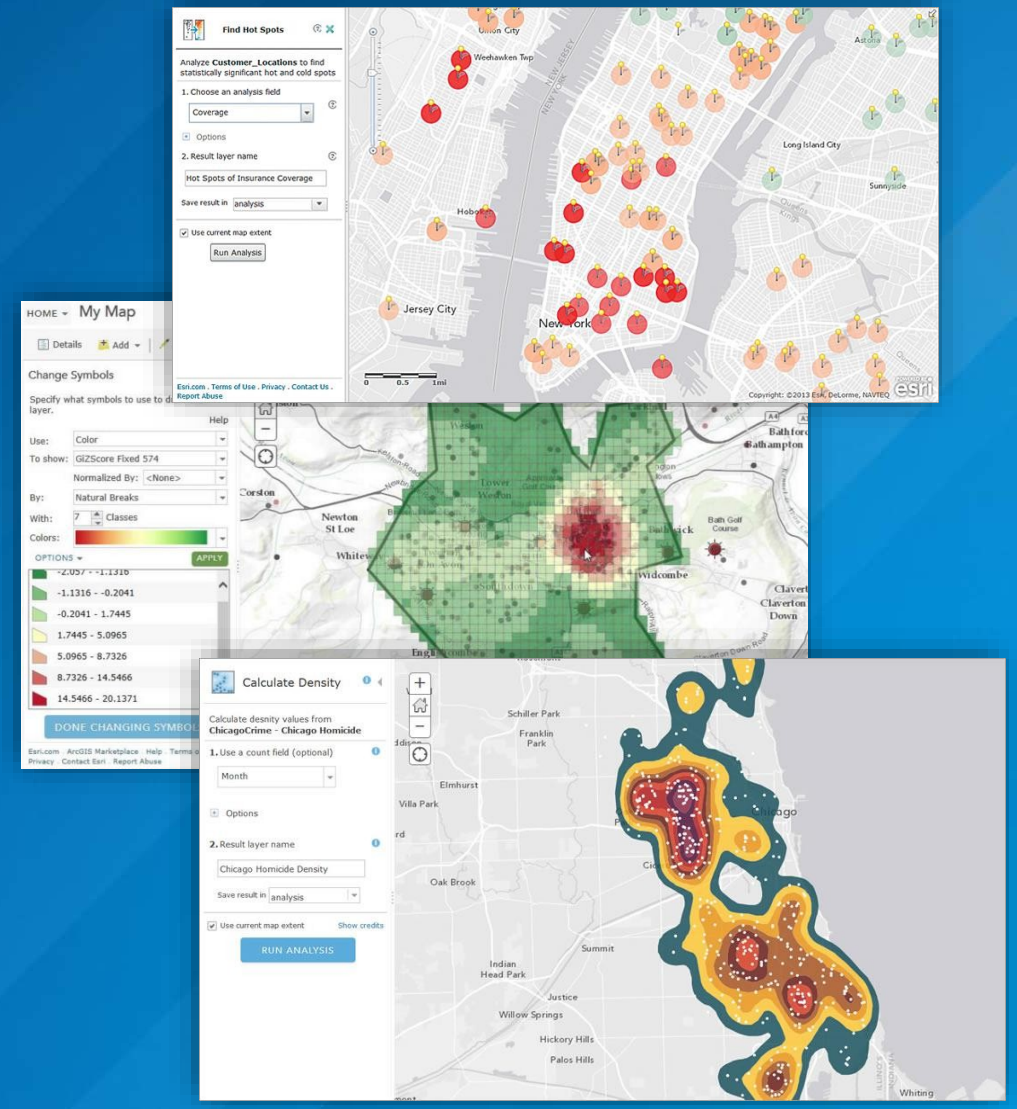
What do you need?

- ArcGIS Online account or Portal for ArcGIS instance
- Privileges
  - Create items
  - Publish hosted features
  - Spatial analysis (including Network Analysis, Geoenrichment)
- Supported Layer Types
- Credits



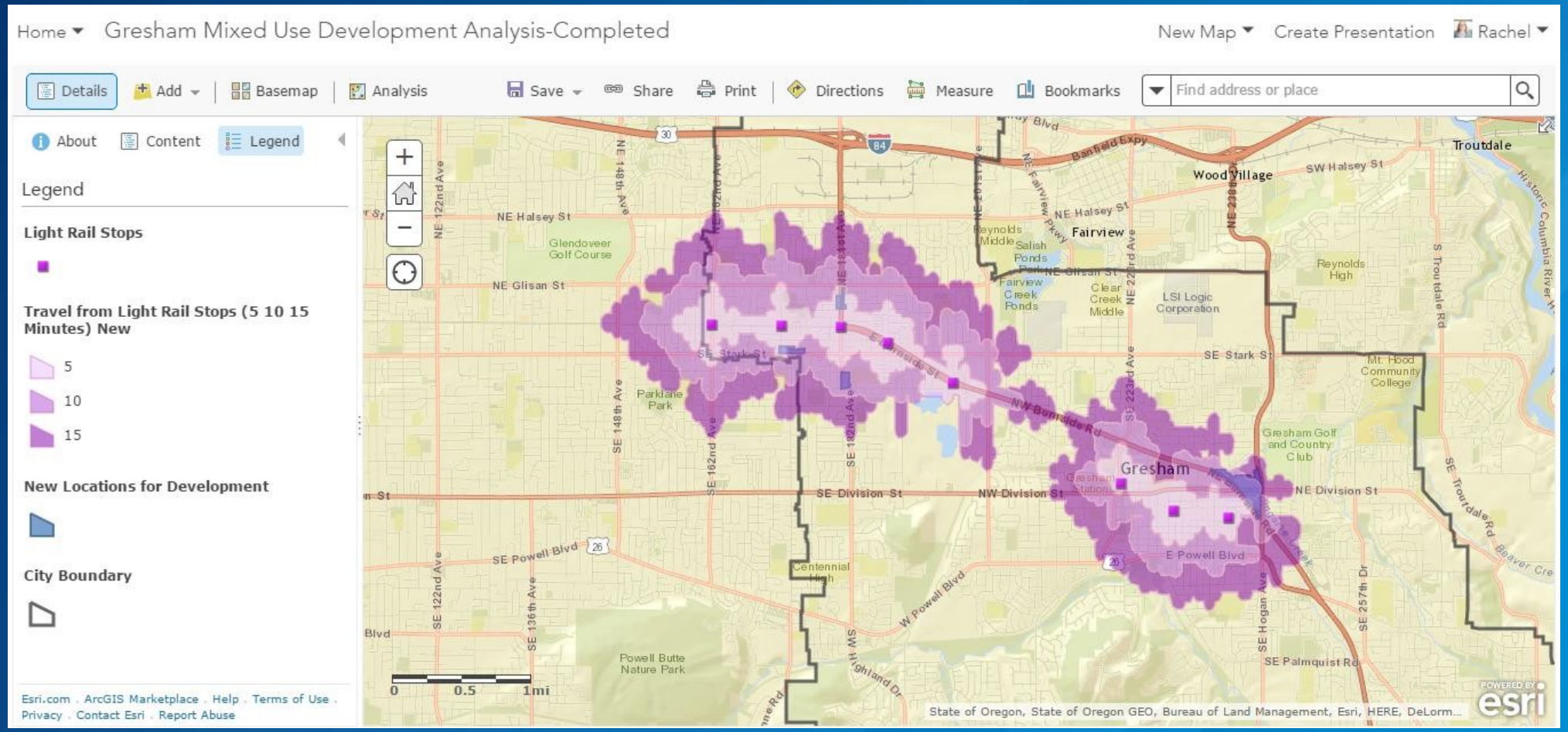
Spatial Analysis with ArcGIS Online

- Use analysis tools quickly, easily and intuitively
- Integrate analytics across your entire organization’s workflows
- Unlock the power to discover relationships, patterns and trends in data
- Help answer questions in a meaningful way



ArcGIS Web Map Viewer

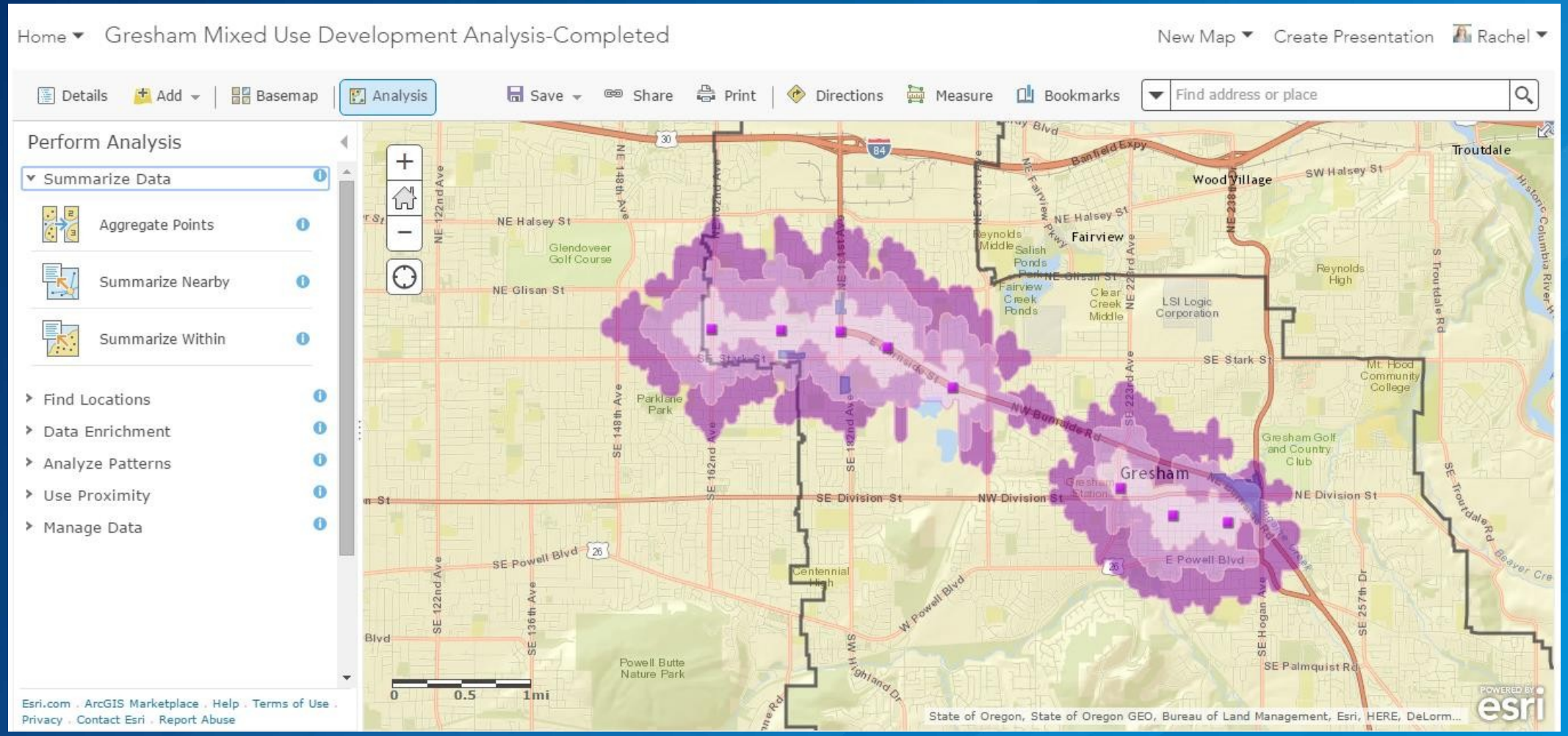
Providing the capability to create maps, perform analysis and share your findings



Analysis Tools

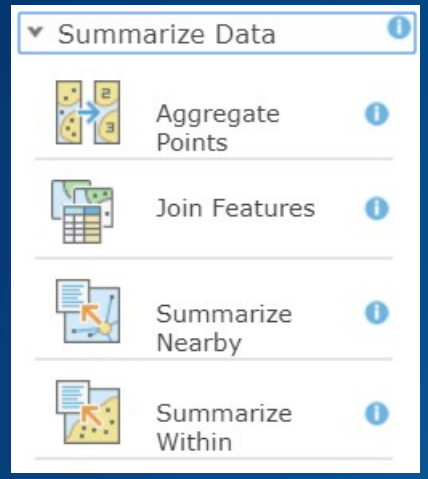
Accessing the Analysis Tools

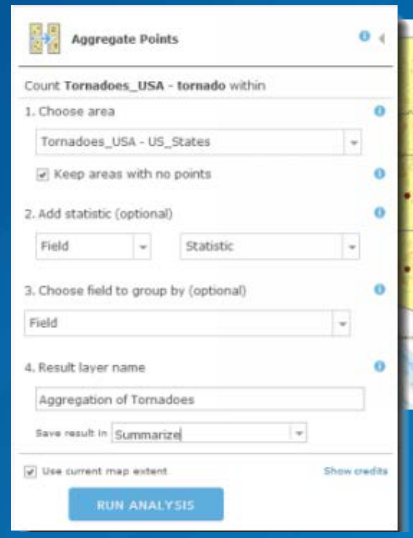
Via the Web Map Viewer



Summarize Data

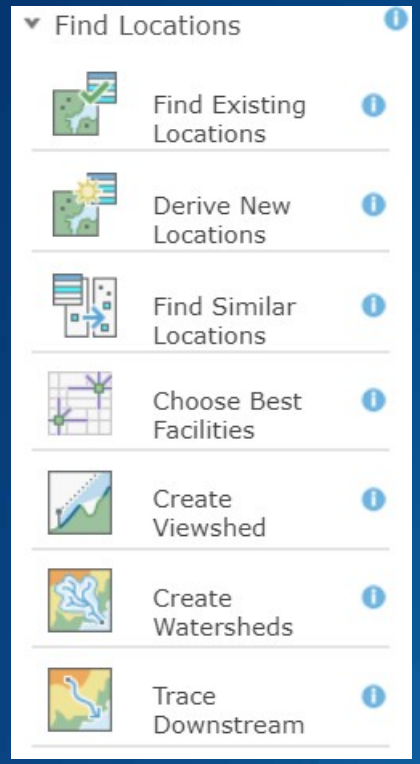
- **Calculate summary statistics for features and attributes**

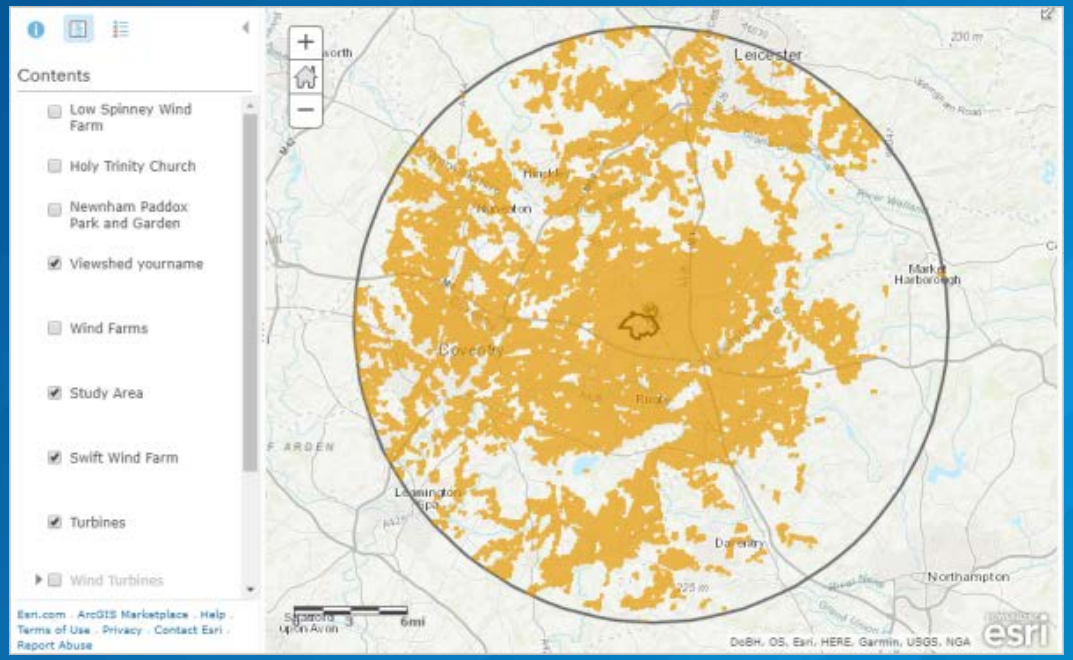




Find Locations

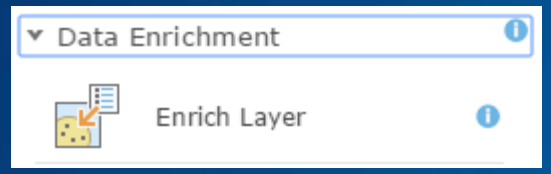
- **Find features based on specified criteria**

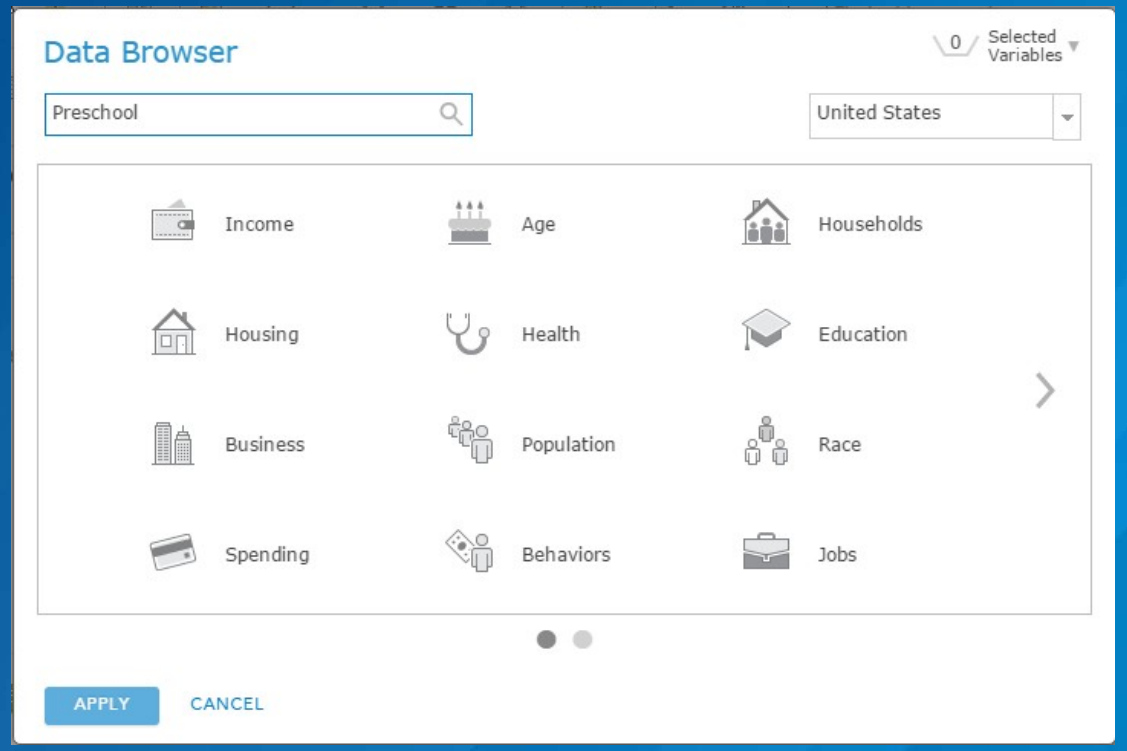




Data Enrichment

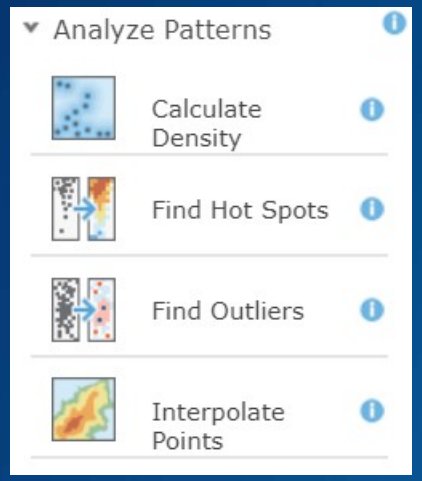
- **Add detailed demographic, behavior, landscape (and more) data to your analysis**





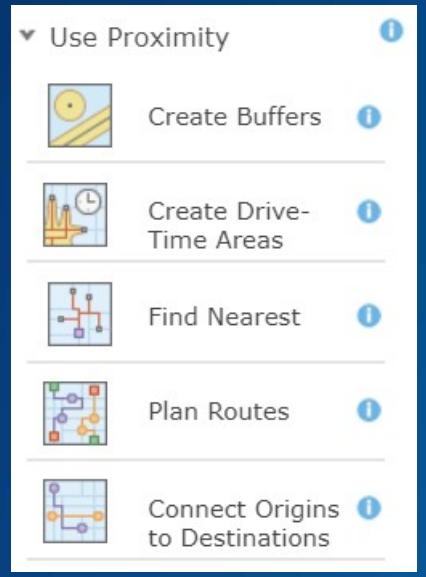
Analyze Patterns

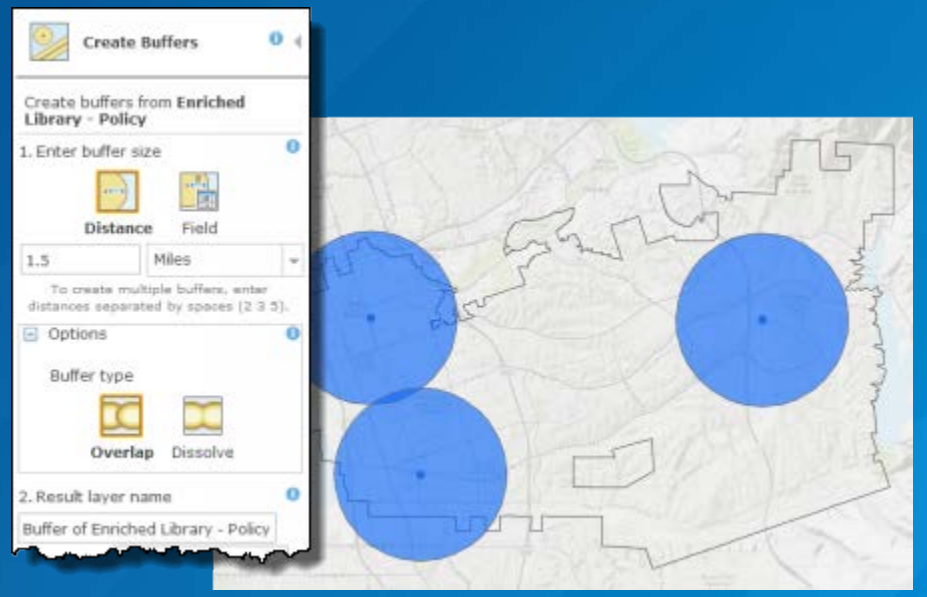
- **Identify, quantify and visualize spatial patterns in your data**



Use Proximity

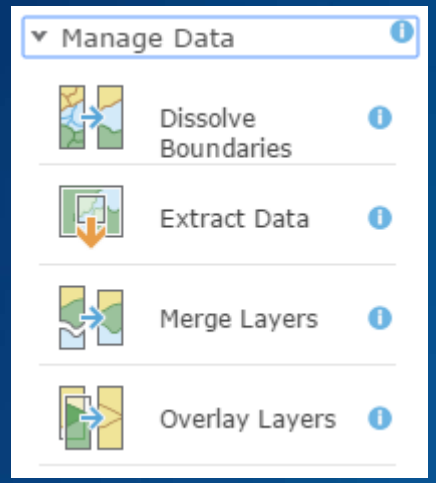
- **Discover what is near what**

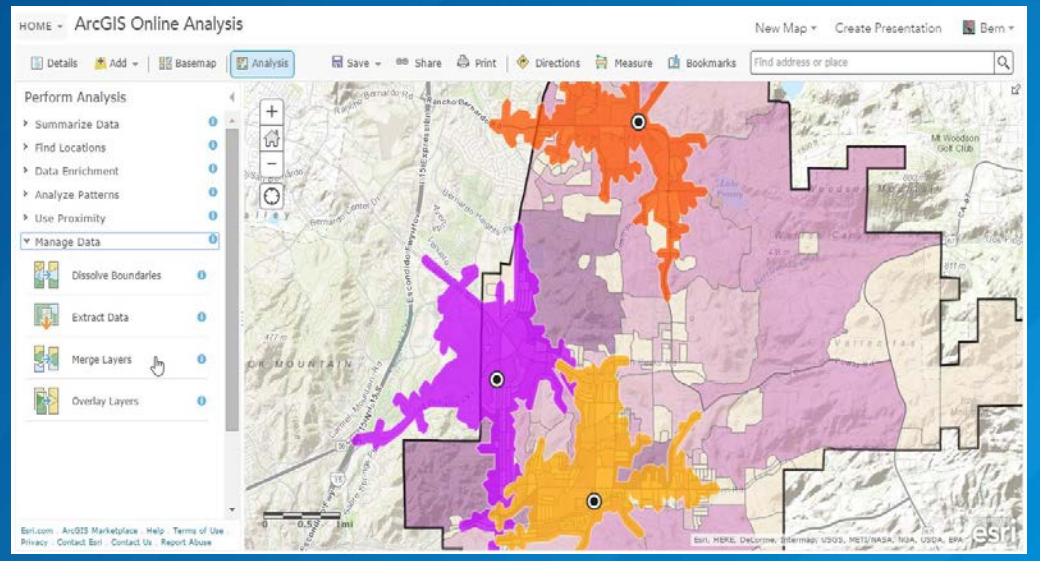




Manage Data

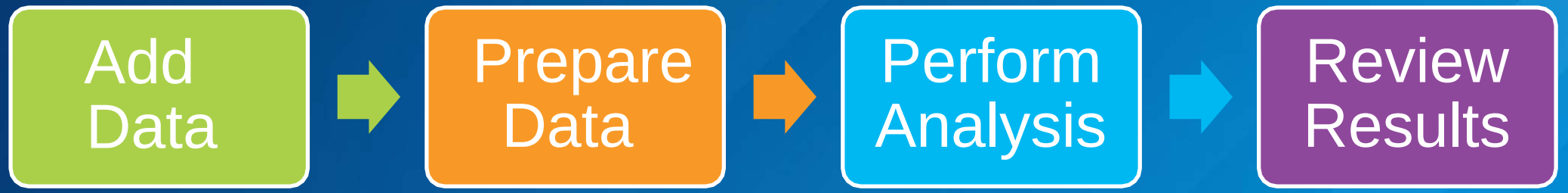
- **Manipulate and combine data prior to or after analysis**





Analysis Workflow

Analysis Workflow



Prepare Data

- Evaluate analysis needs
- Search online resources
- Create, publish and filter data

Supported Data Types

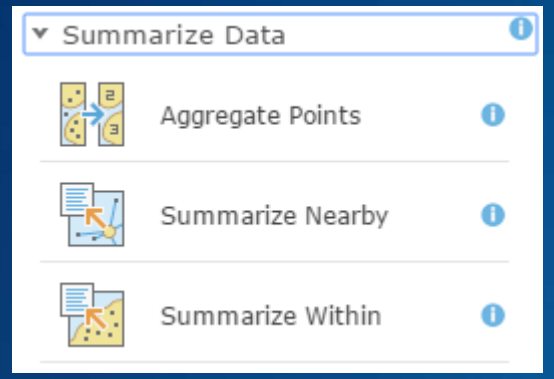
- ✓ Feature service
- ✓ Map service with feature layers
- ✓ WFS layers
- ✓ Hosted tile layers (query enabled)
- ✓ ArcGIS Online Map Notes
- ✓ ArcGIS Online route layers
- ✓ CSV files
- ✓ KML layers
- ✓ GPS Exchange Format
- ✓ Shapefile
- ✓ GeoRSS Web feed
- ✓ Map notes
- ✓ Tables

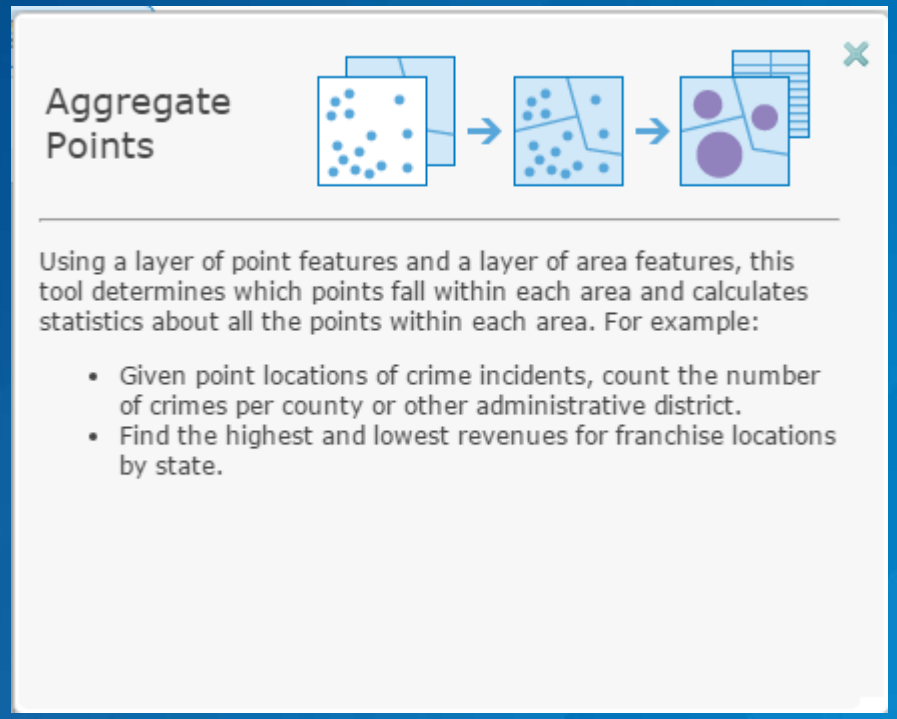
Add to Map

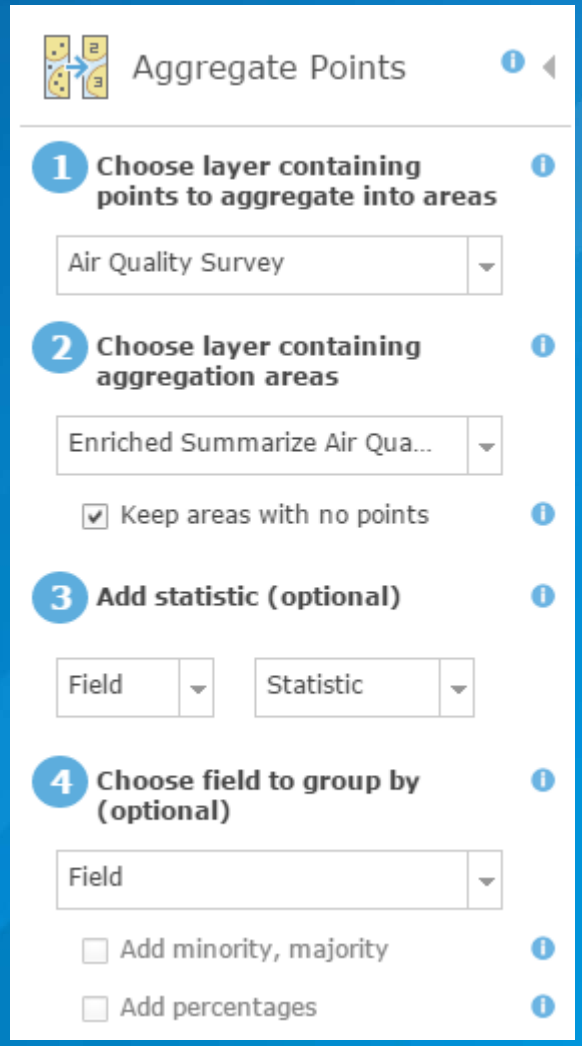
- Bring data into web map viewer
- Symbology (Smart Mapping)
- Arcade expressions
- Save map
- Set access permissions

Analyze Data

- Determine appropriate tool(s)
- Apply parameters

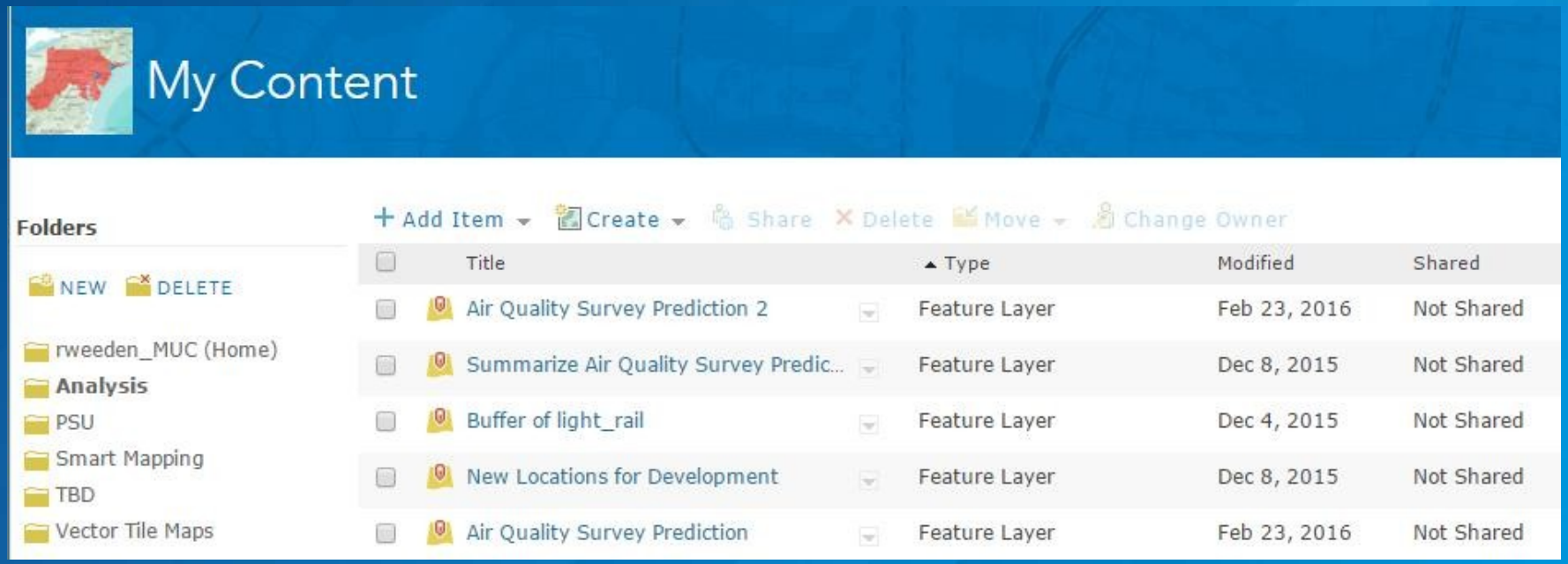






Review Results

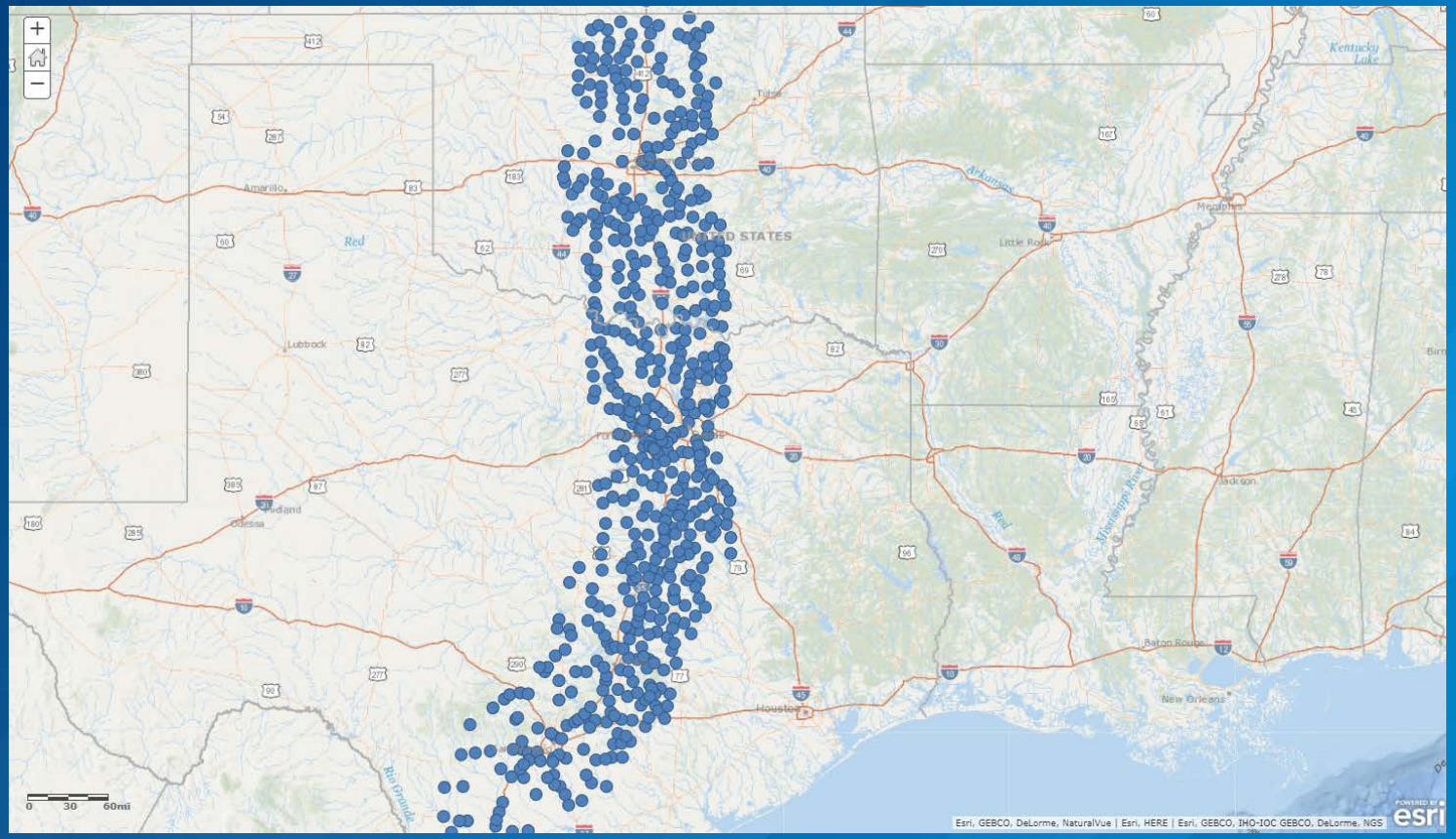
- Added to web map
- Published as hosted feature layers
- Rerun analysis if necessary
- Share the results
  - Layers
  - Maps
  - Apps



Analysis Examples

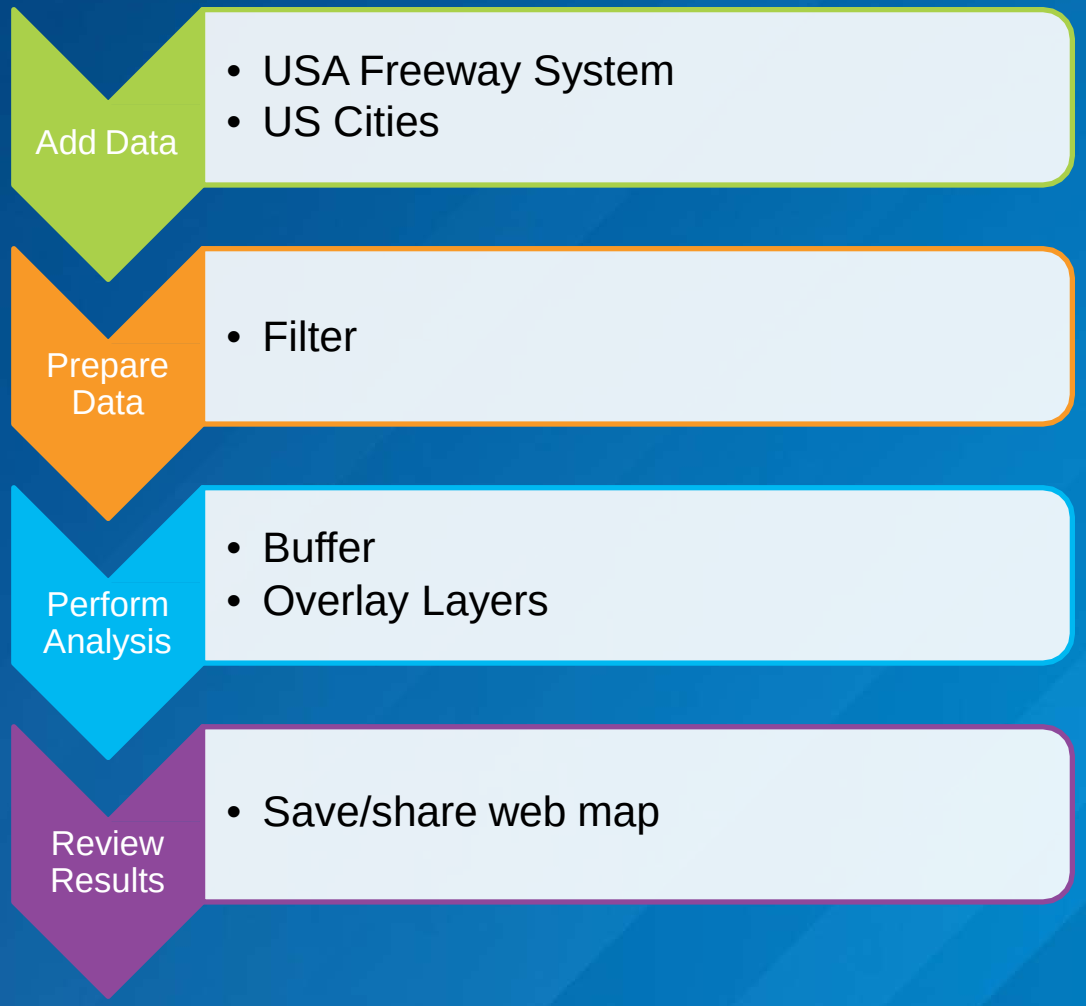
Example #1

- **Locate all cities with a population less than 10,000 along I-35 Corridor.**



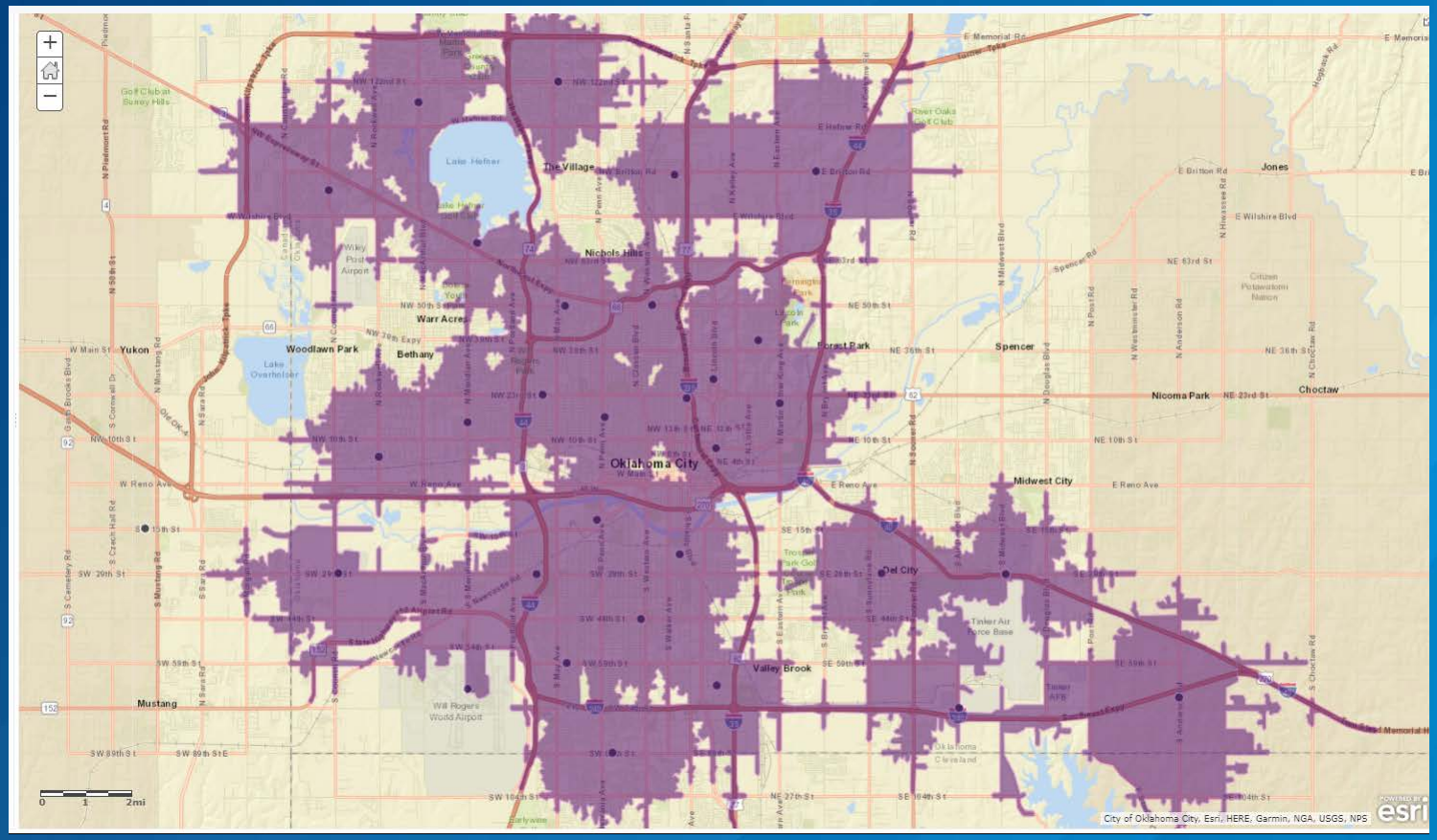
Example #1 Review

- **Locate all cities with a population <10,000 along I-35 Corridor.**



Example #2

- **Drive Times from fire stations within the city (5 minutes).**

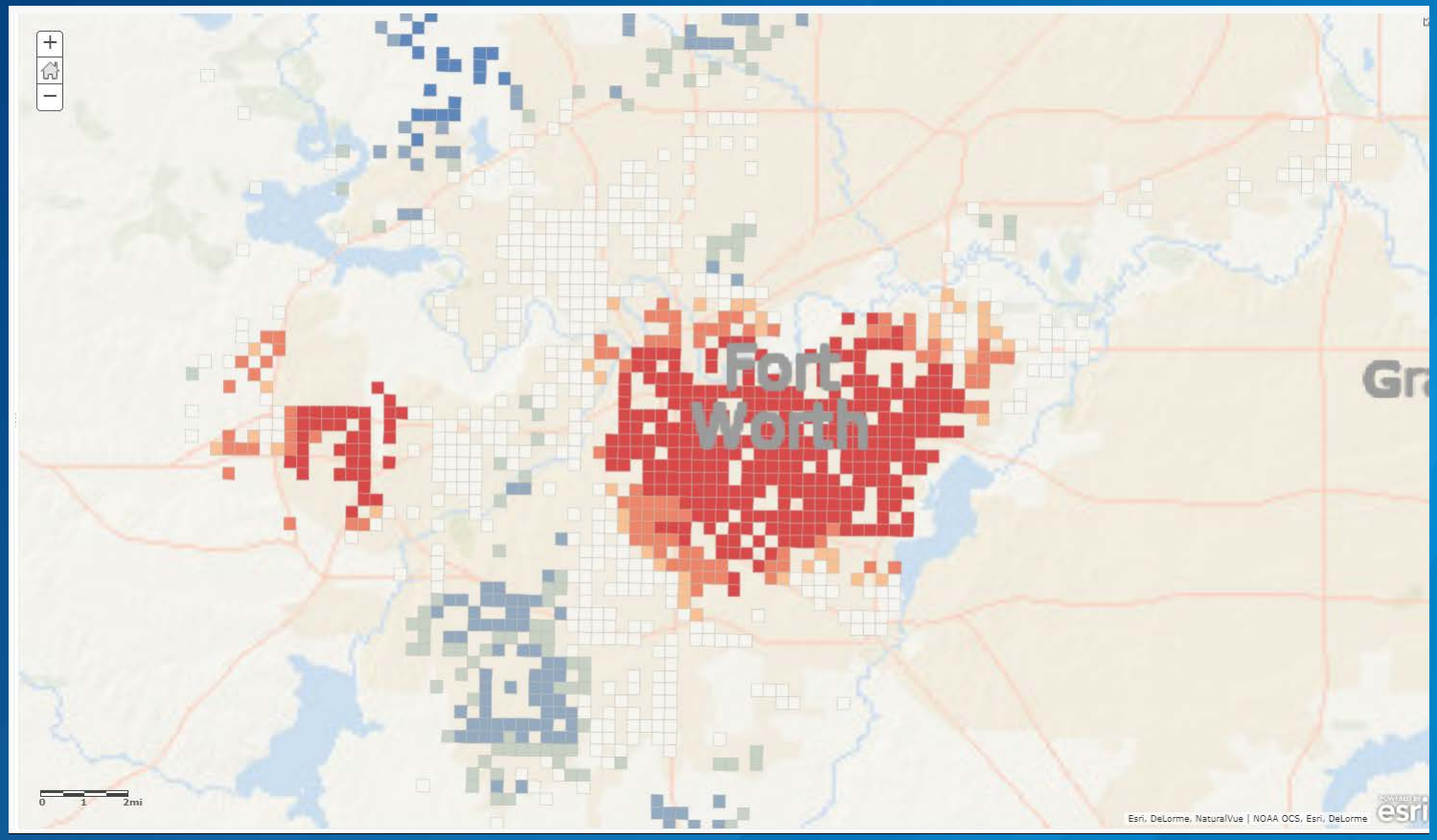


Example #2 Review

- **Drive Times from fire stations within the city (5 minutes).**

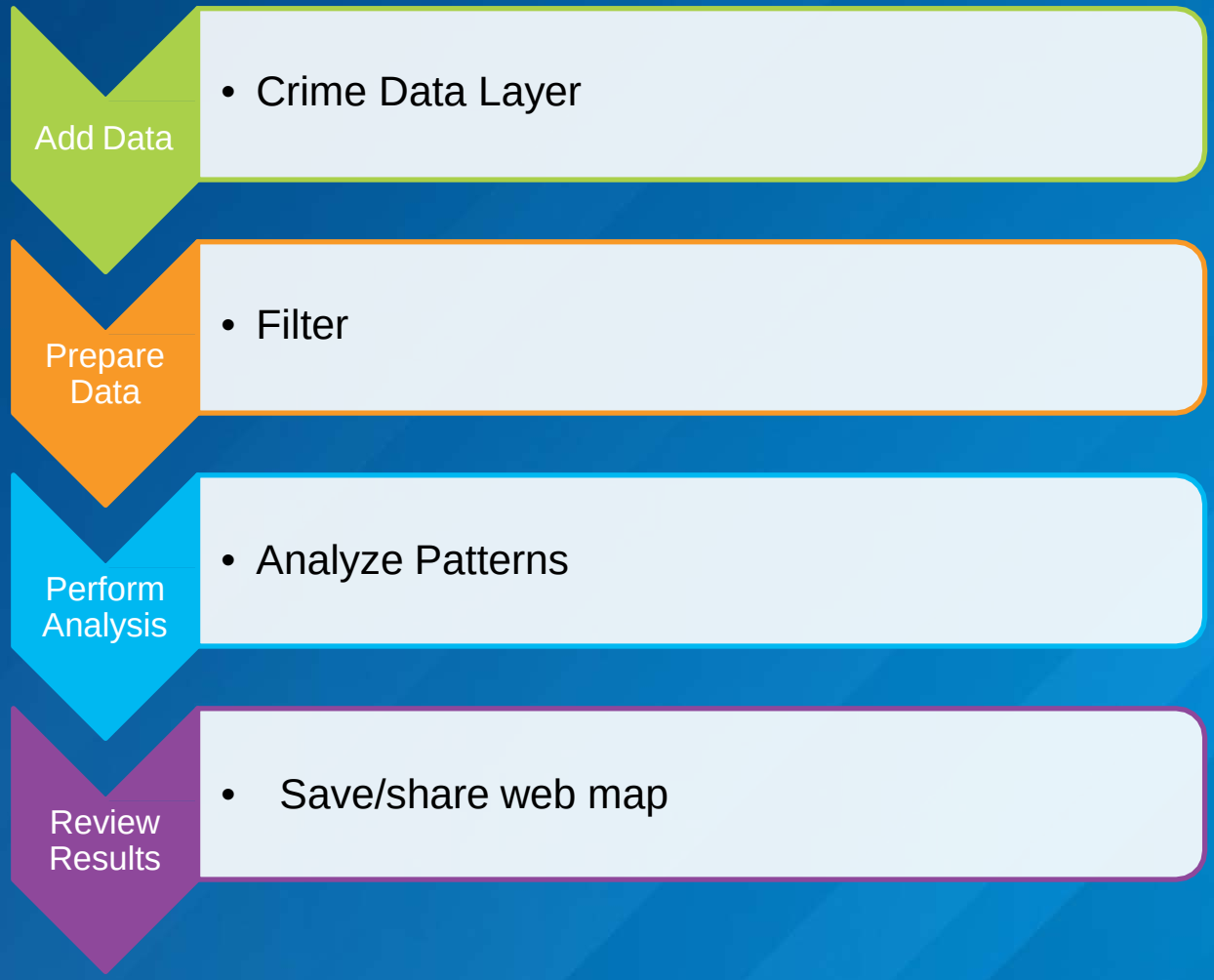
Example #3

- **Crime data hot spot analysis.**



Example #3 Review

- **Drive Times from fire stations within the city (5 minutes).**



Other Options

ArcGIS App Builders | Frameworks for Configuring and Creating Apps

Web AppBuilder

Web

Many 2D and
3D Widgets

Analysis

Access 25 Tools

Geoproces...

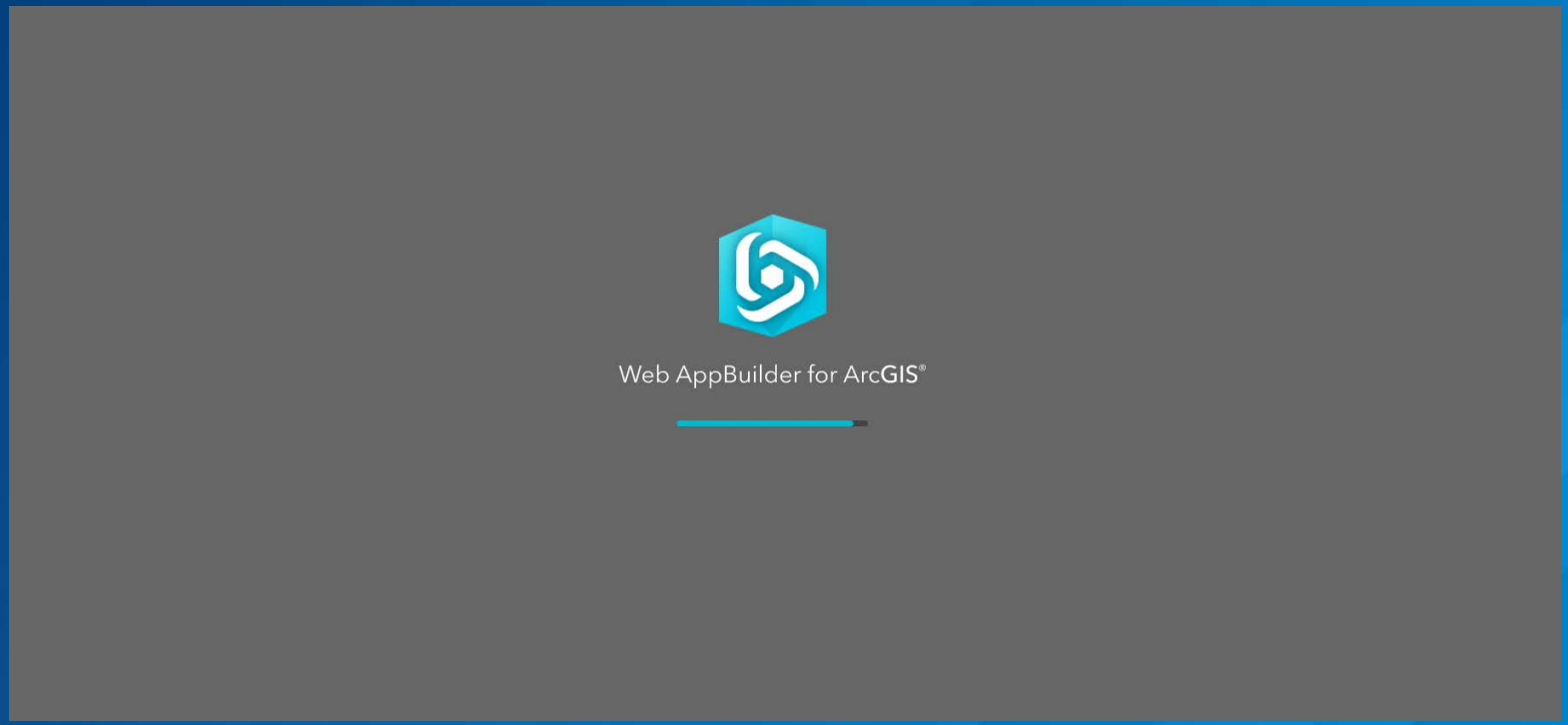
Use your
Geoprocessing
Web Services

500,000+ Web Apps Created and Deployed

No Programming Required

Example #4

- **Web AppBuilder Walkthrough.**



Summary

- Spatial analysis adds valuable insight by providing hosted tools that work with your data in ArcGIS Online or ArcGIS Enterprise
- Performing spatial analysis via the web is easy and intuitive
- Use online spatial analysis to discover geographic relationships, patterns, and trends
- Access online spatial analysis tools in the map viewer, in Web AppBuilder, and leverage GeoAnalytics Server

Resources

- Learn ArcGIS (www.learn.arcgis.com)
- Esri Training (www.esri.com/training)

esri
THE
SCIENCE
OF
WHERE