Spatial Analysis with Web GIS

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Agenda

Subhead goes here

- Introducing ArcGIS Online Spatial Analysis
- Workflows
- Scenarios
- Other Options
- Resources

ArcGIS is a Platform

Making mapping and analytics available across your organization

ArcGIS | A Complete GIS Platform

Apps

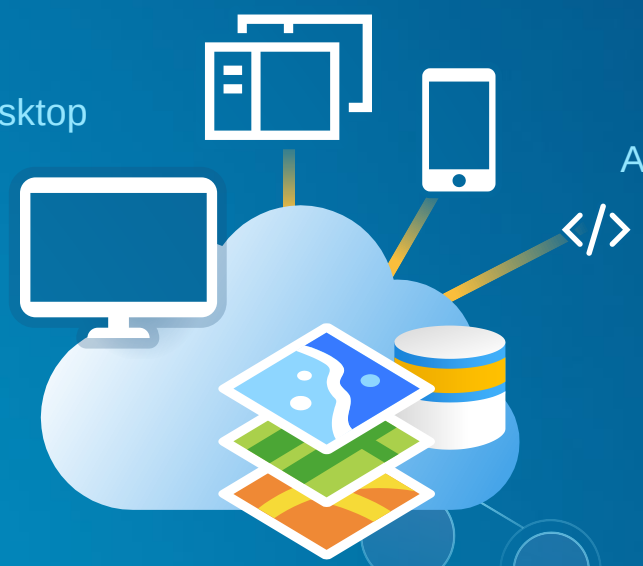
Open

Desktop

APIs

Services Based

Deploy On Your Infrastructure

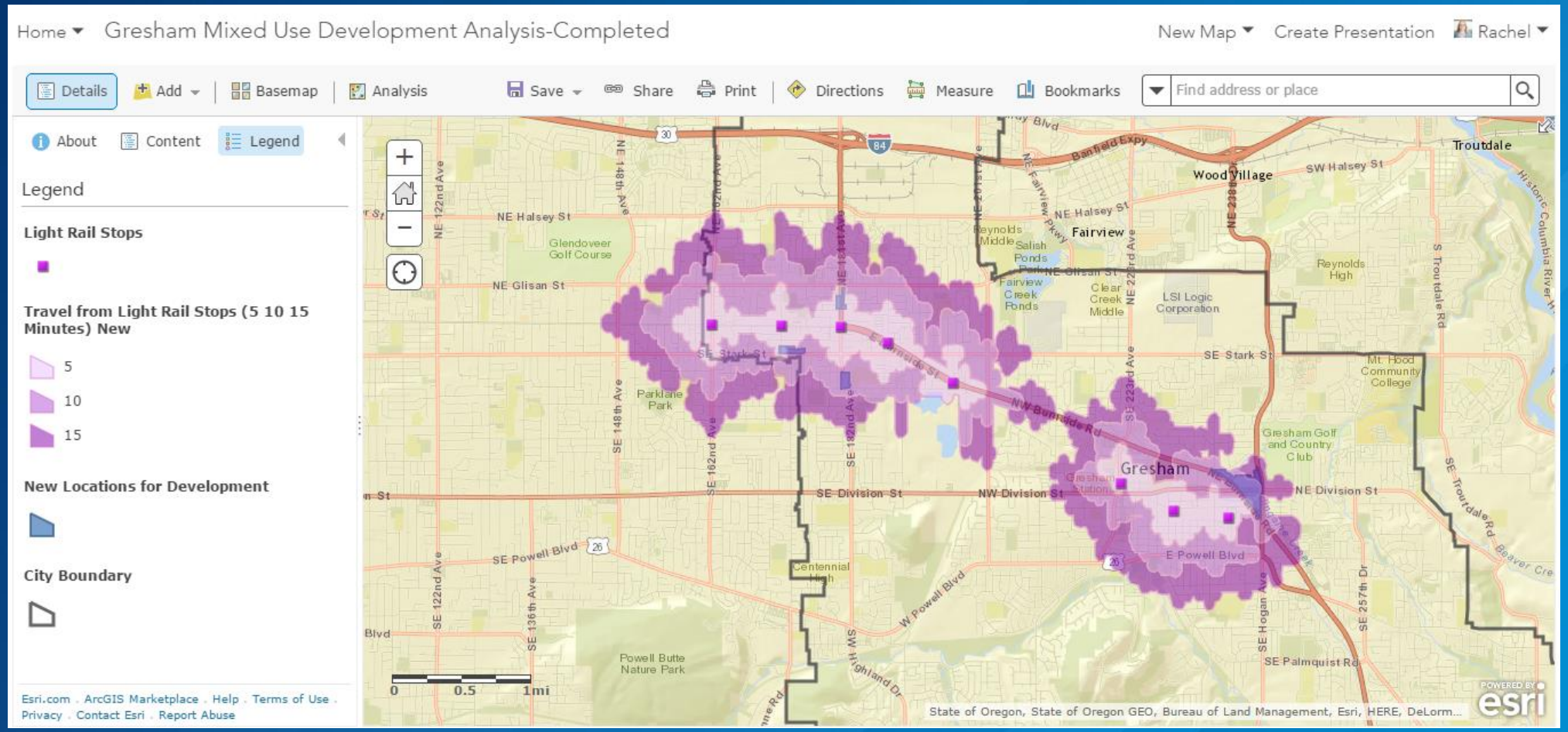


Available as SaaS

Distributed

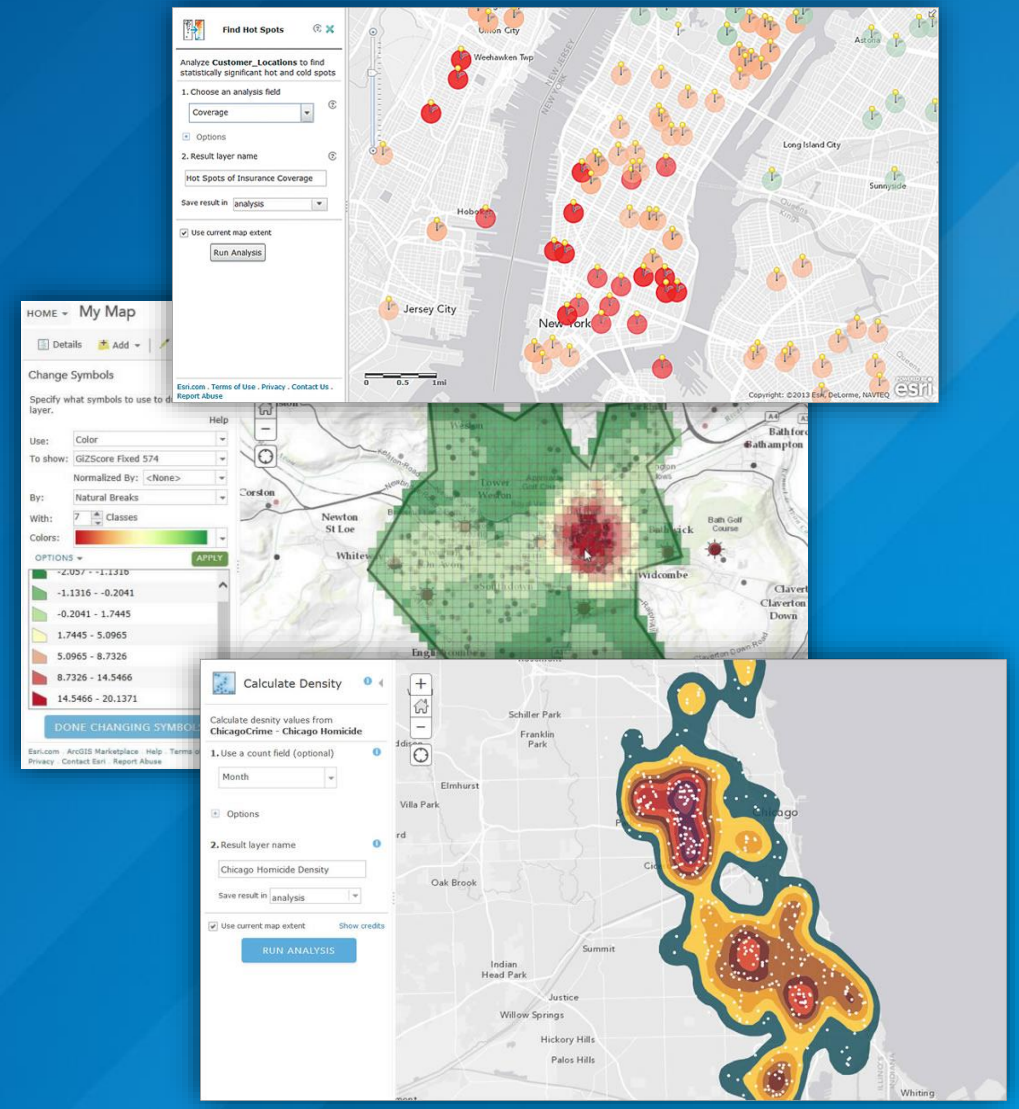
ArcGIS Web Map Viewer

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



Spatial Analysis with ArcGIS Online

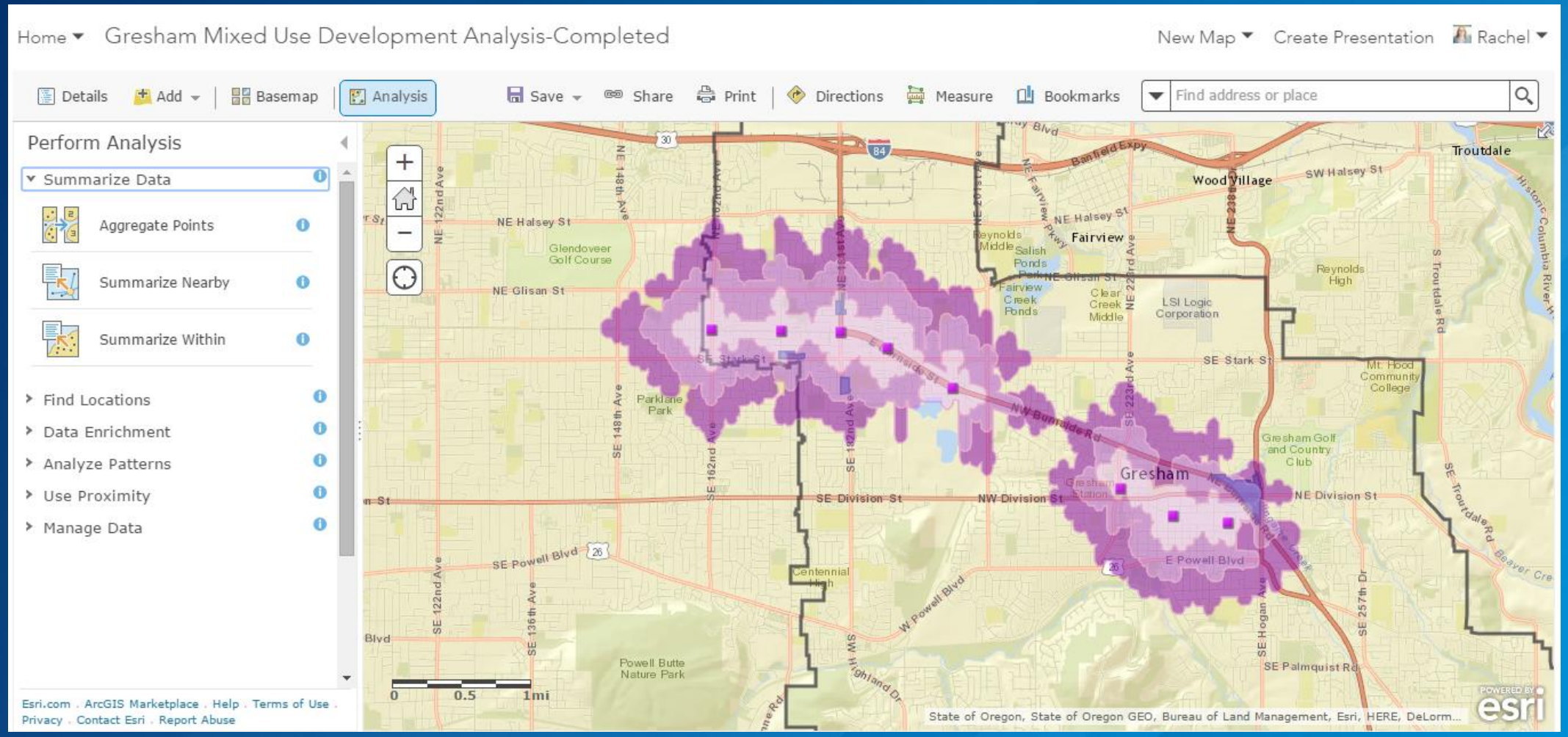
- Use analysis tools quickly, easily and intuitively
- Integrate analytics across your entire organization's workflows
- Unlock the power to discover relationships, patterns and trends in data
- Help answer questions in a meaningful way



Analysis Tools

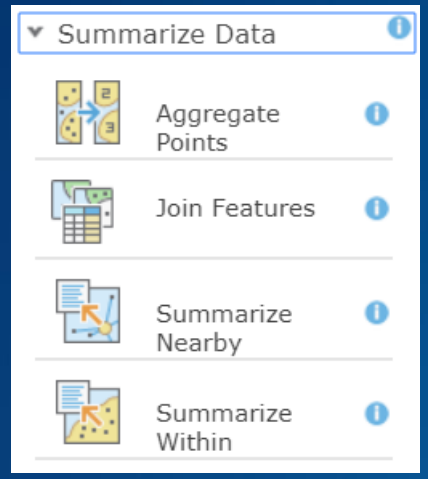
Accessing the Analysis Tools

Via the Web Map Viewer



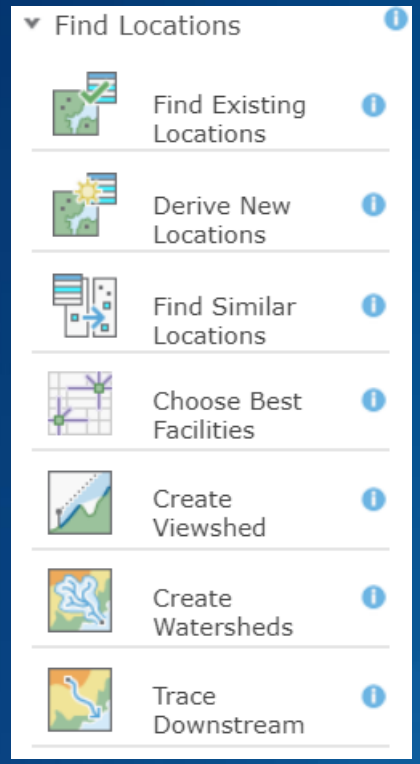
Summarize Data

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



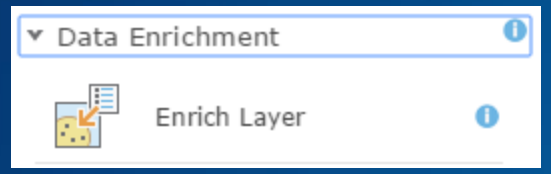
Find Locations

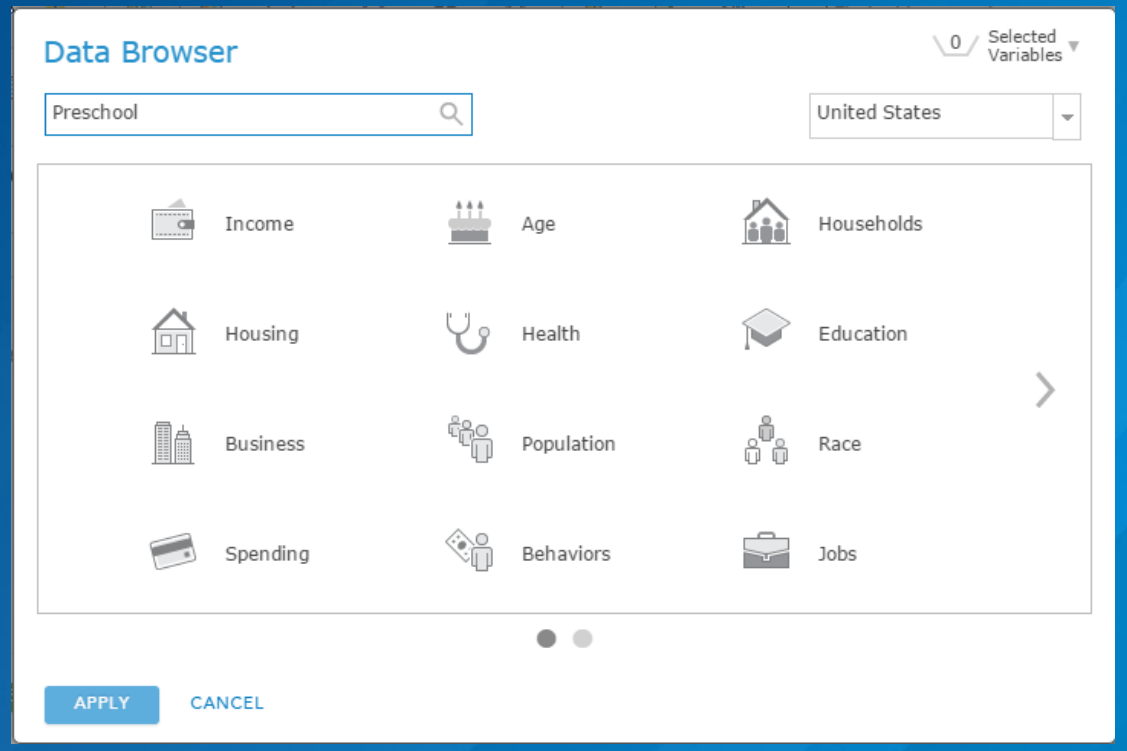
- **Find features based on specified criteria**



Data Enrichment

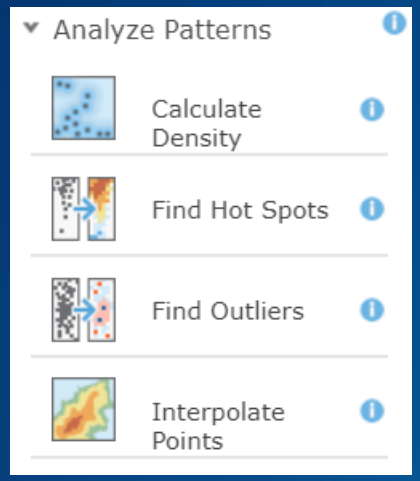
- **Add detailed demographic, behavior, landscape (and more) data to your analysis**





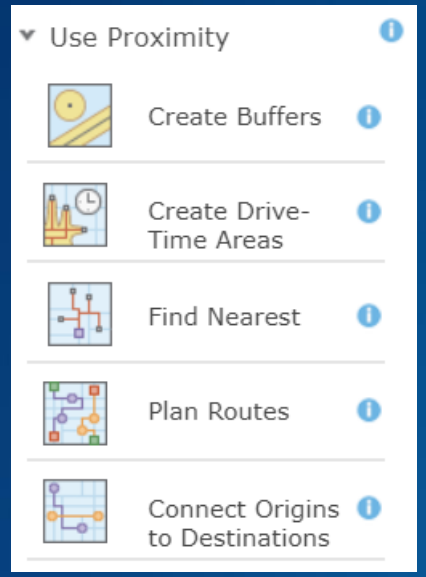
Analyze Patterns

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



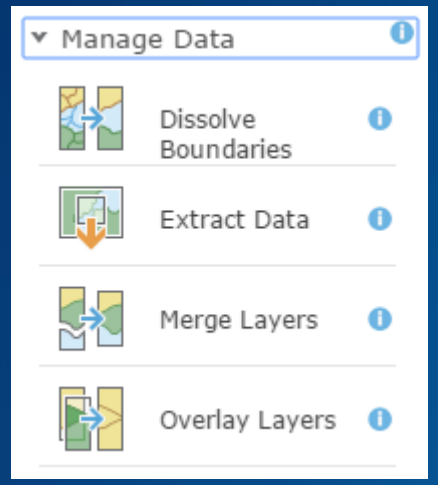
Use Proximity

- **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

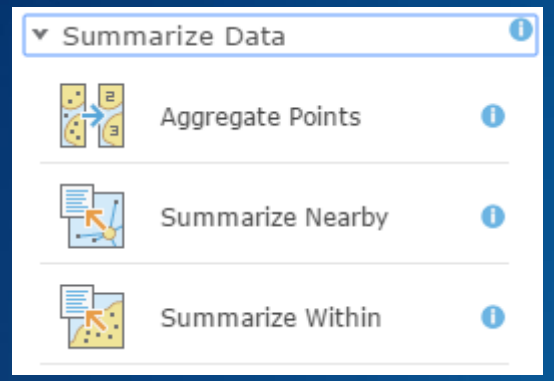
- ✓ Feature service
- ✓ Map service with feature layers
- ✓ WFS layers
- ✓ Hosted tile layers (query enabled)
- ✓ ArcGIS Online Map Notes
- ✓ ArcGIS Online route layers
- ✓ CSV files
- ✓ KML layers
- ✓ GPS Exchange Format
- ✓ Shapefile
- ✓ GeoRSS Web feed
- ✓ Map notes
- ✓ Tables

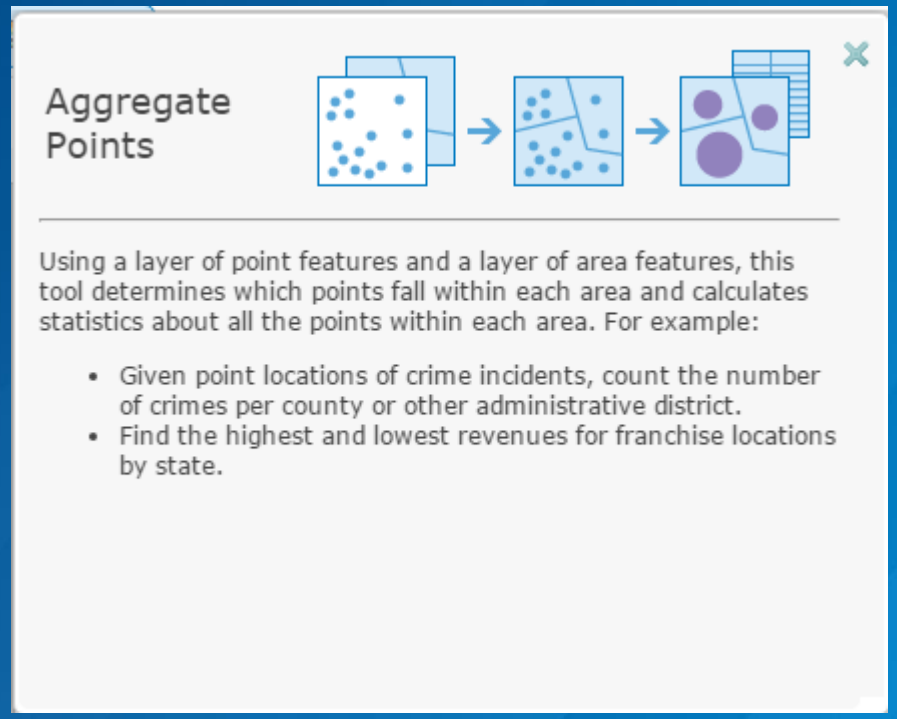
Add to Map

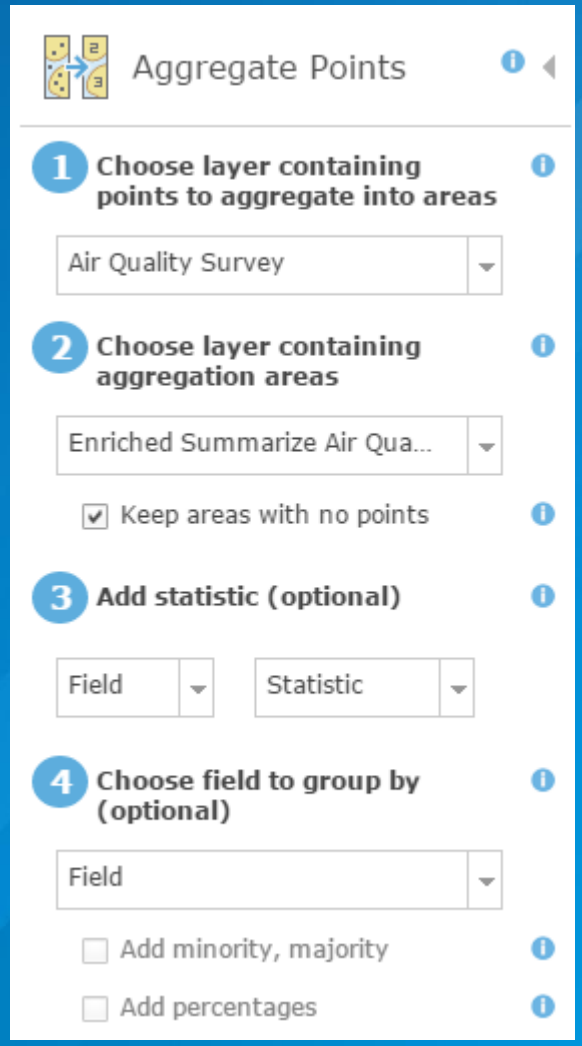
- Bring data into web map viewer (ArcGIS Online or ArcGIS Enterprise)
- Symbology (Smart Mapping)
- Arcade expressions
- Save map
- Set access permissions

Analyze Data

- **Determine appropriate tool(s)**
- **Apply parameters**

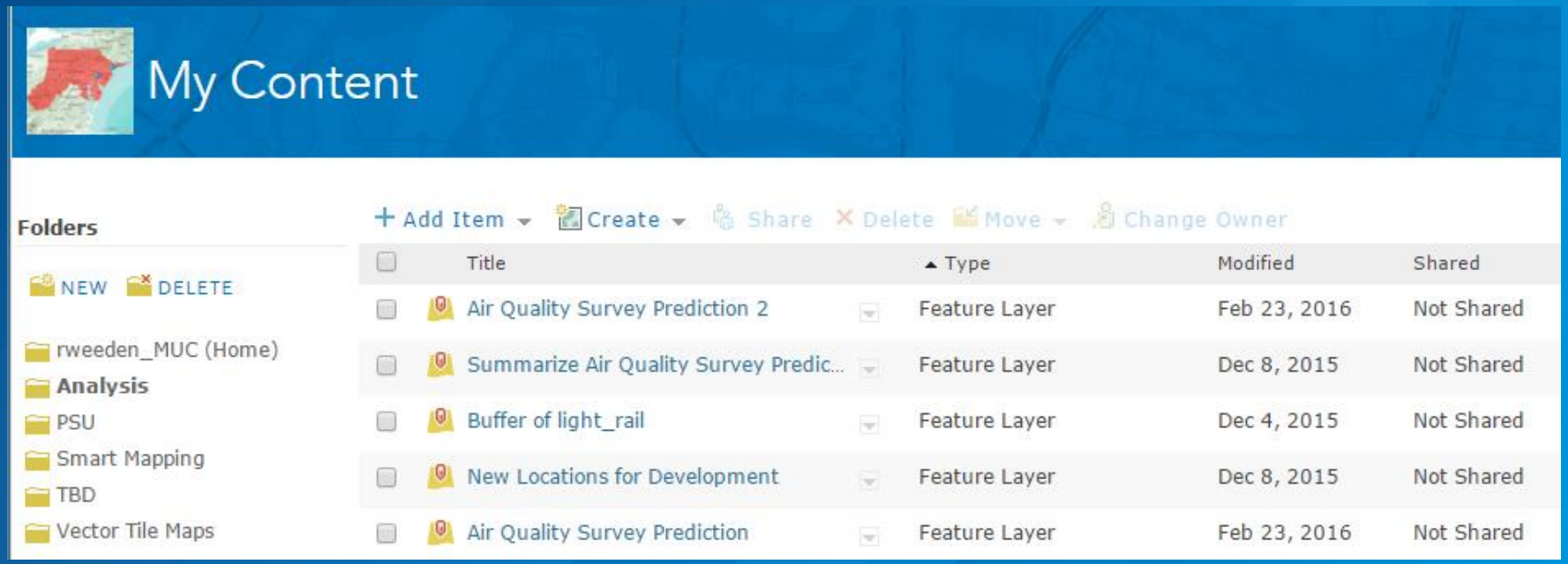






Review Results

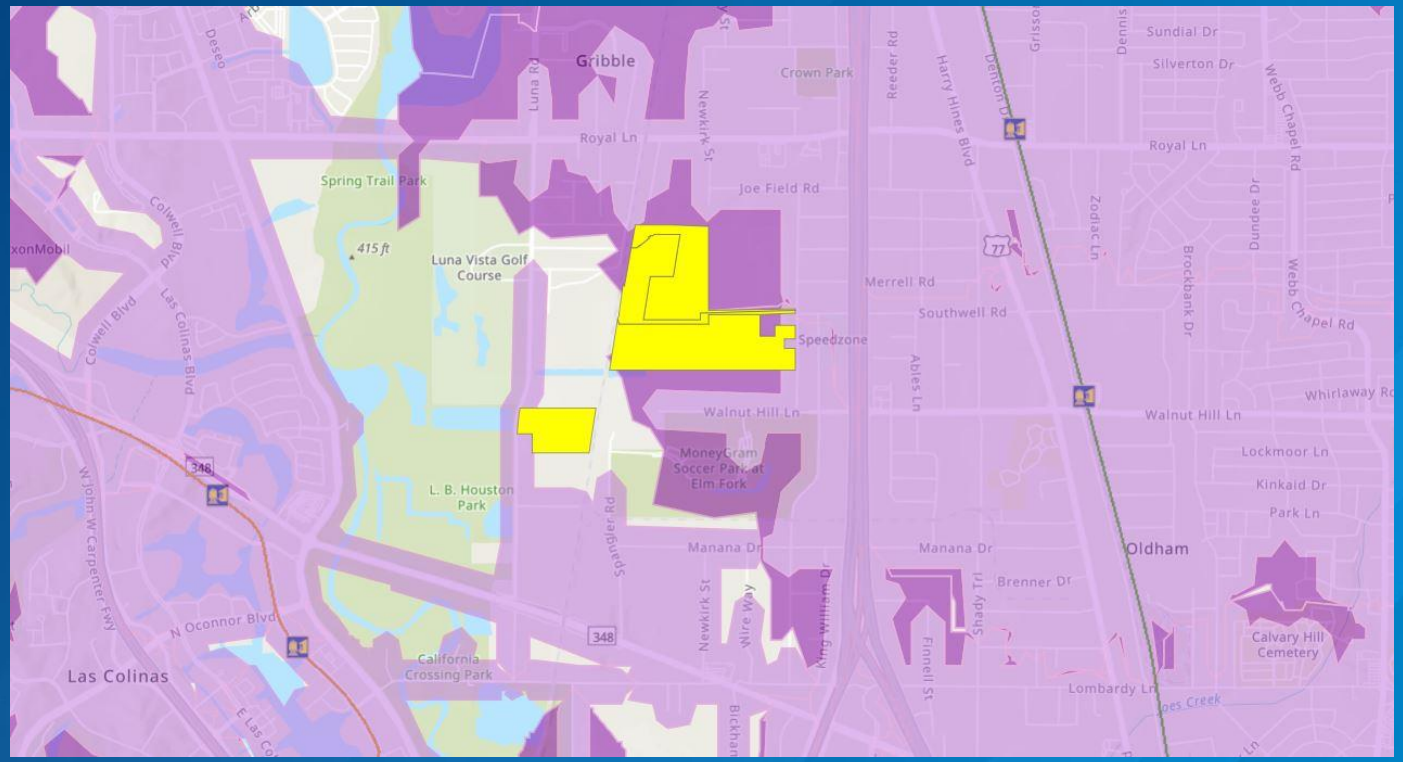
- Added to web map
- Published as hosted feature layers
- Rerun analysis if necessary
- Share the results
  - Layers
  - Maps
  - Apps



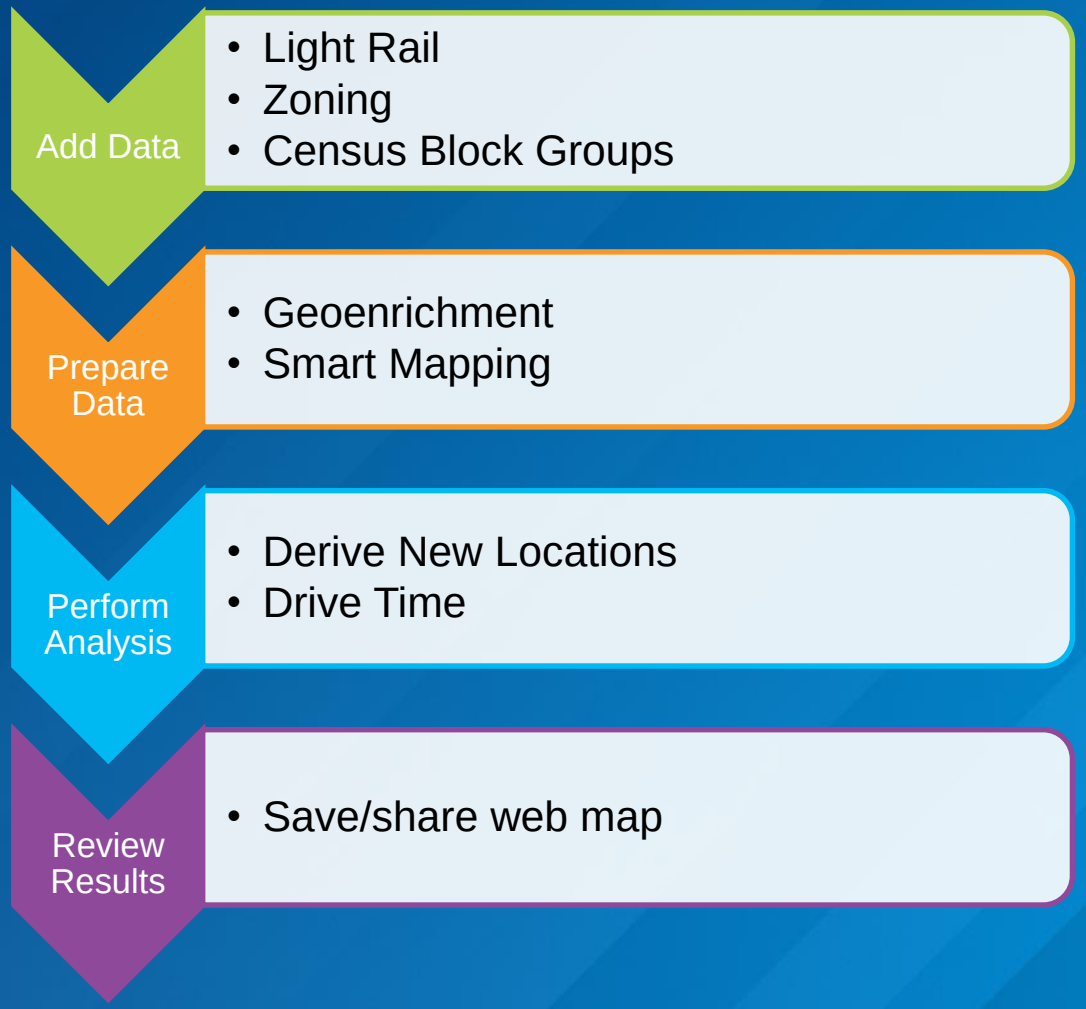
Analysis Scenarios

Scenario #1

- **Where could a mixed-use development be built?**

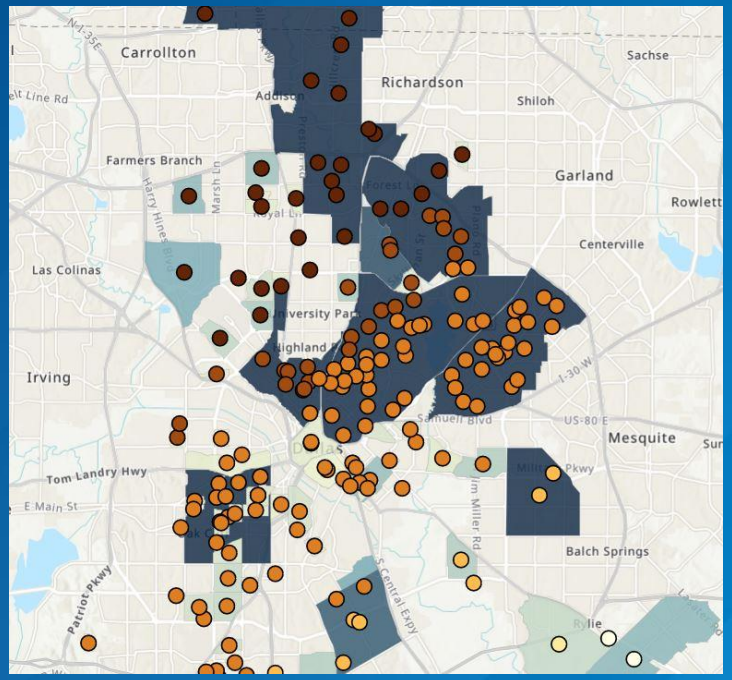


Scenario #1 Review
Where could a mixed-use development be built?



Scenario #2

- **Who is affected most by high air pollution levels?**



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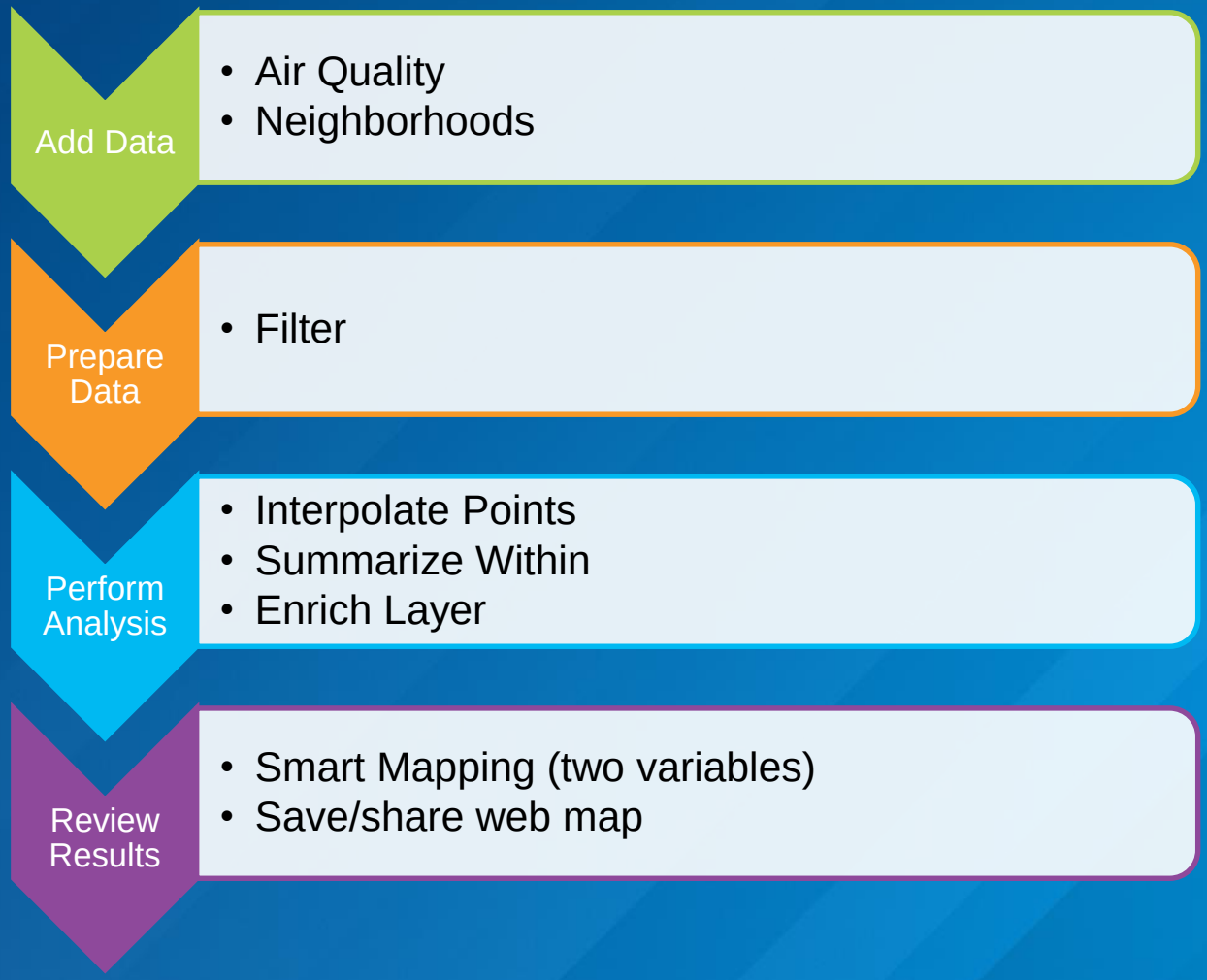


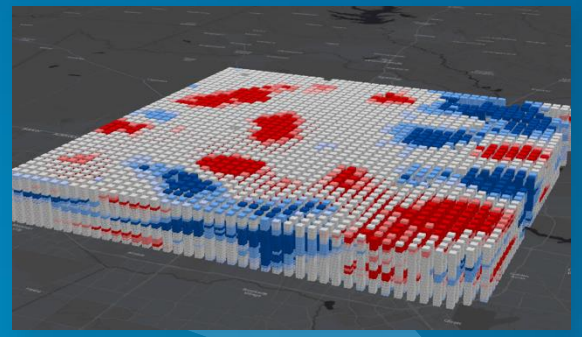
Other Options

Big Data Spatial Analytics | Faster and Massively Scalable

GeoAnalytics Server

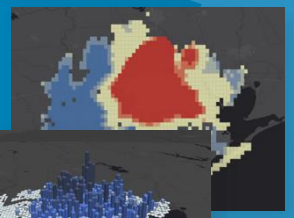
Features / Vectors

- Space-Time Analytics
- Hot Spots
- Density
- Buffer
- Summarize
- Aggregation
- Construct Tracks
- Find Similar
- Spatial Join



Space-Time Cube

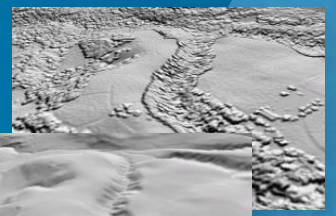
Riparian Areas



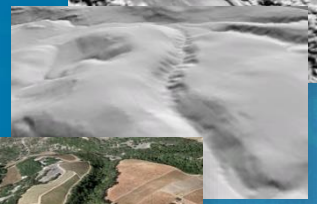
Hot Spots

Density

Power Outages (50+ Million)



Lidar: First Return



Lidar: Bare Earth

Imagery

Faster (10x+)

Image Server

Imagery / Raster

- Image Processing
- Classification
- Change Detection
- Topo
- Suitability
- Density
- Corridors
- Distance
- Proximities
- Interpolation

Leveraging Distributed Computing and Parallel Processing

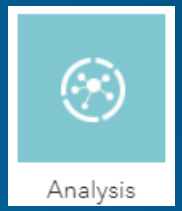
. . . Accessible from ArcGIS Pro and Python API

ArcGIS App Builders | Frameworks for Configuring and Creating Apps

Web AppBuilder

Many 2D and
3D Widgets

Web



Access 25 Tools

Use your
Geoprocessing
Web Services

500,000+ Web Apps Created and Deployed

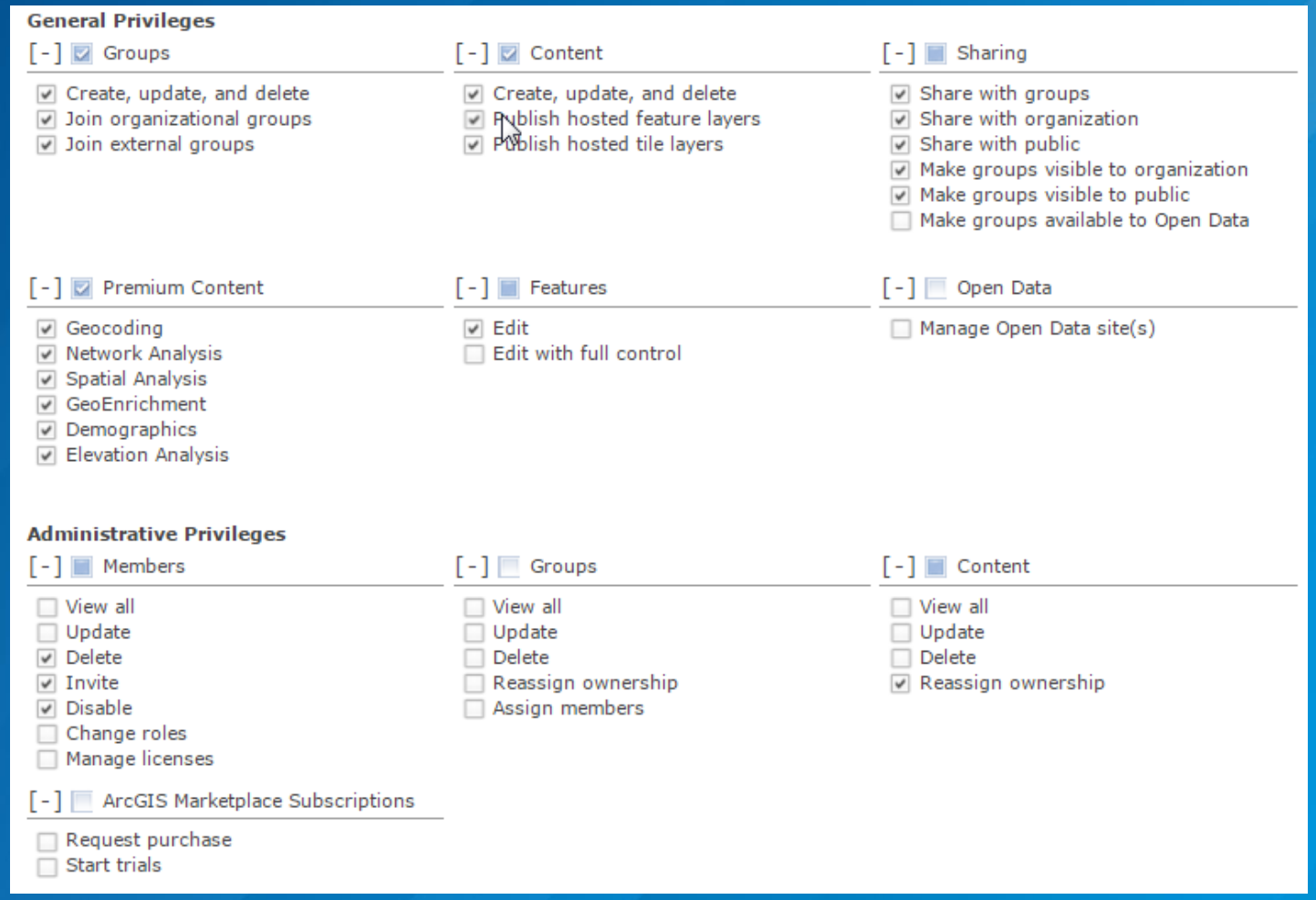
No Programming Required

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

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



Resources

- https://esri.box.com/v/ArcGISSpatialAnalysisLinks
- Learn ArcGIS
- Esri Training
- Tips for managing credits consumed by analysis tools

esri
THE
SCIENCE
OF
WHERE