



# Analyzing Demographics, Business, and Consumer Preference Data Using Business Analyst Web App

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## Goals for this workshop

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1. **Understanding what the Business Analyst Web App is and why to use it in instruction and research.**
2. **Learning how to use the Business Analyst Web App.**



# Business Analyst Web App

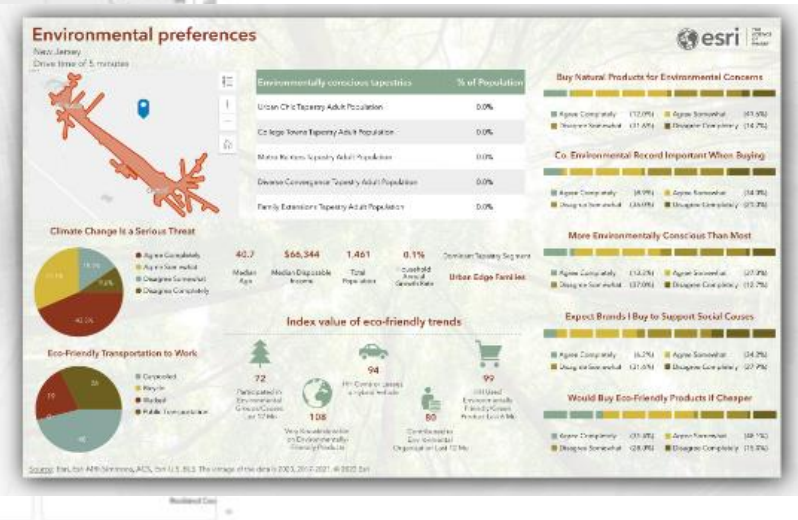
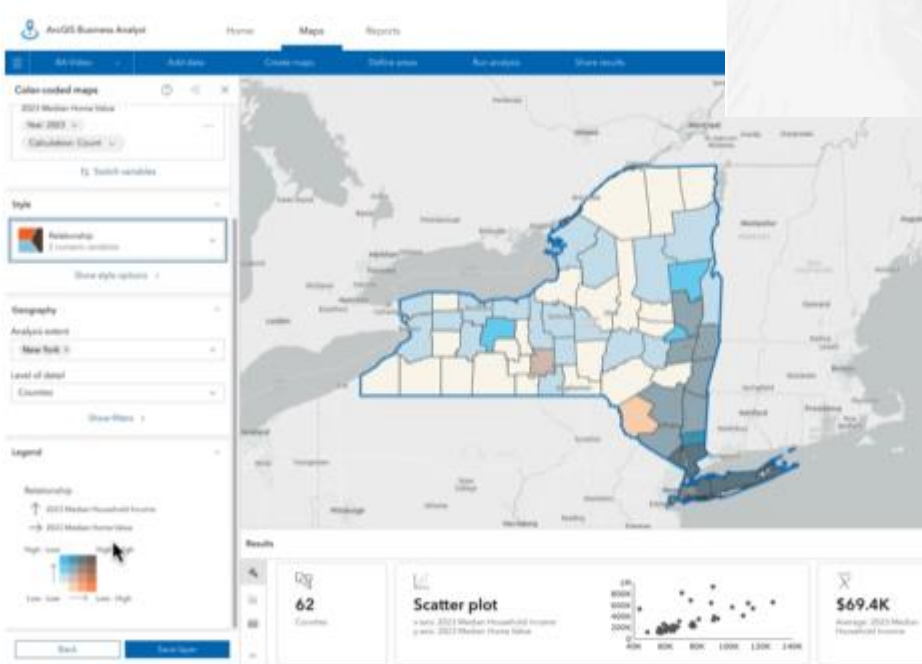
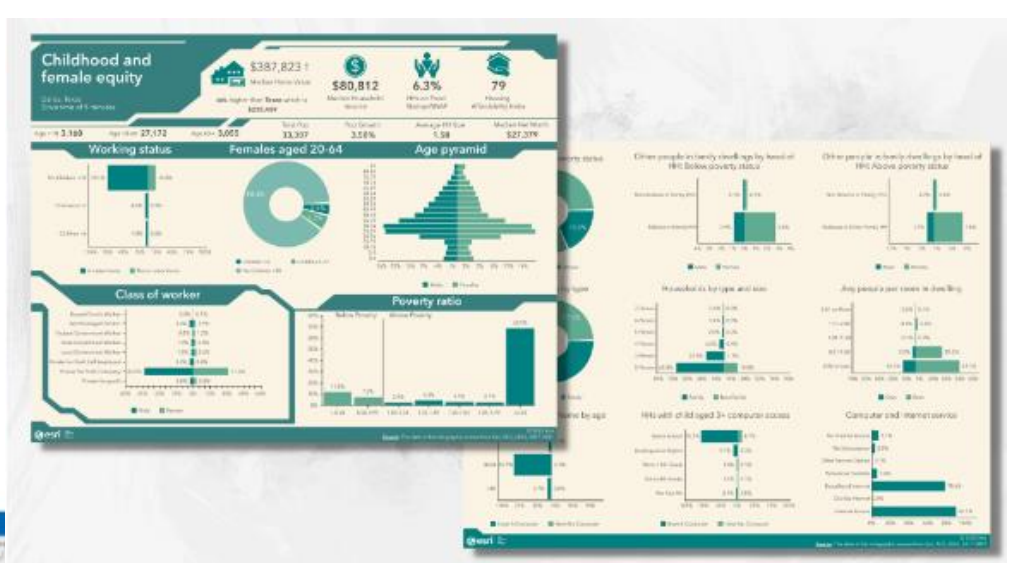
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A SaaS solution that applies GIS technology to analyze demographic and behavioral data, allowing you to perform analysis, and create maps, reports, and infographics.

# Data

Business Analyst data includes 15,000+ variable options from more than 130 countries, including demographics, business locations, consumer spending, and market potential, at multiple geographies. With ready-to-use and custom data infographic templates and 40+ reports, sharing the analysis you've done using the data included with Business Analyst alongside your proprietary data is both informative and captivating.

# Pictures are worth 1,000 words here



Thus, it is a *cloud-based software service*.  
It is also an *Esri product* and it is also an *application*.

**It contains:**

**--Tools**

**Proximity analysis  
Choropleth mapping  
Filtering, selecting, symbolizing, etc.**

**--Data:**

**Demographics,  
Business Locations,  
Consumer preferences.**

**--Connections to ArcGIS Online data and maps.**

# Why use the Business Analyst Web App?

## It is:

- ◆ **Cloud-based; no software required.**
- ◆ **Connected to ArcGIS**
- ◆ **Built for the non GIS user: Straightforward to use!**
- ◆ **A powerful set of tools.**
- ◆ **Pre-loaded with a vast amount of data.**

**This data is multiscale, authoritative, and is updated on a regular basis. Coverage: USA \*and\* many other countries.**

# Where to use the Business Analyst Web App?

## Research

◆ Whenever visualizing demographic and behavioral variables and business locations need to be analyzed over space and time

## Teaching

- ◆ GIScience
- ◆ Geography
- ◆ Sociology
- ◆ Business
- ◆ Data science
- ◆ Mathematics



# Data: Detail

--Esri basemaps

--Demographics: > 2000 variables + 5 year projections

--Consumer spending by HH for 20+ categories: apparel, pets, financial, food & beverage

--tapestry segmentation: 67 segments: Lifestyles, behaviors

--market potential data – on products/services consumers use demand

--business locations and summary data: > 13 million businesses, + employee #, sales, industry classification codes

--traffic counts: for trade analysis, routing, mathematical modeling

--crime indexes: personal and property crime

# Community Analyst vs Business Analyst Web App

**Same interface and menus. Only difference is the color of the User Interface.**

**BAWA: Built with business users in mind.**

**CA: Built with the non-business users in mind, such as nonprofit and civic organizations, planning agencies, social services, and others.**

# Accessing BAWA

To access the tool: **BAWA:** [www.esri.com/bao](http://www.esri.com/bao)

OR – [www.arcgis.com](http://www.arcgis.com) > app launcher > **Business Analyst Web App**

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A separate product: **Business Analyst extension for ArcGIS Pro:**

--nothing to install – enable licensing through ArcGIS Online license manager, then use ArcGIS Pro as usual.

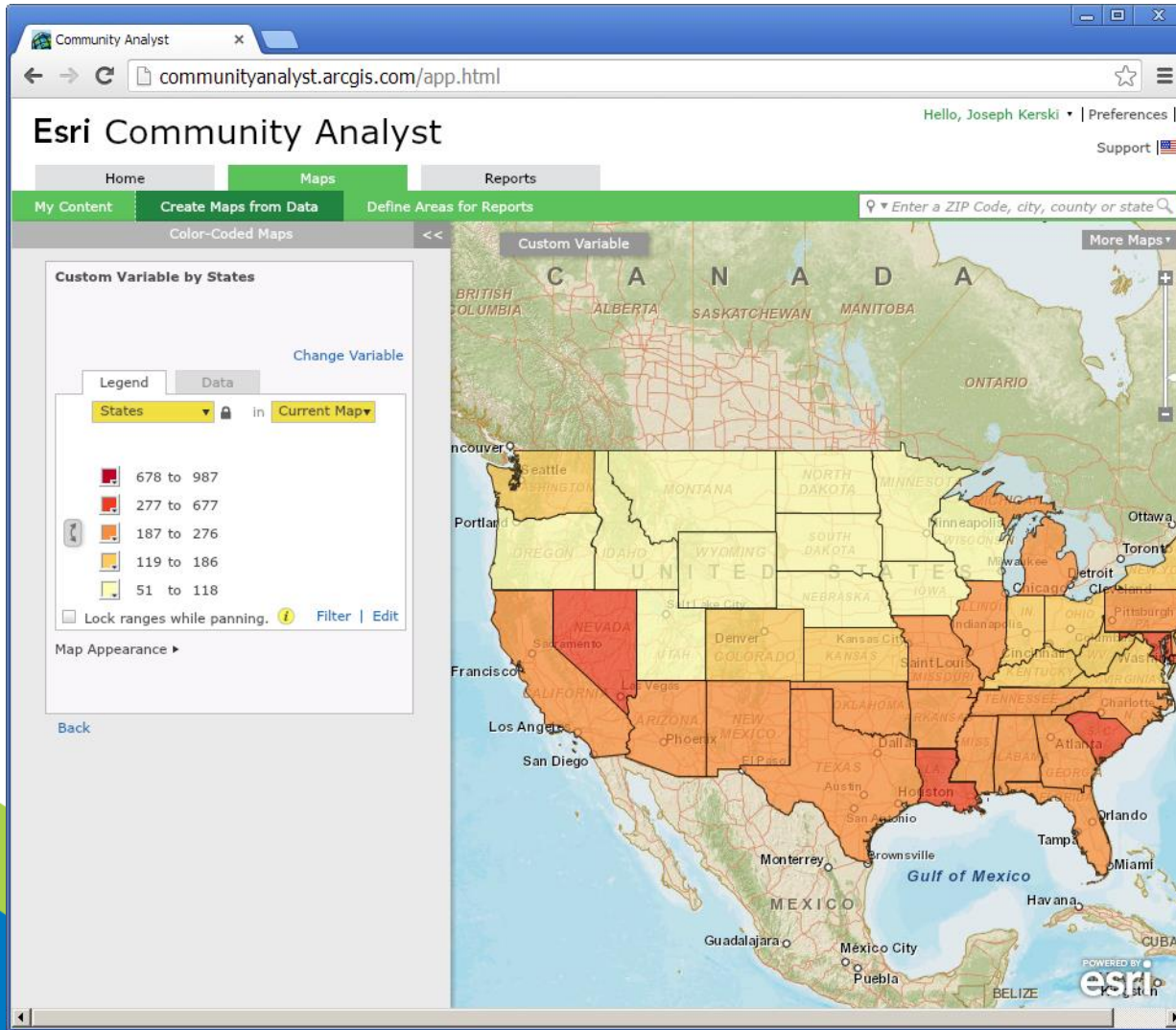
--contains more tools and automation than Business Analyst Web App.

--has the ability to use data locally and thus avoid credit consumption.

For more see this essay:

<https://www.esri.com/arcgis-blog/products/business-analyst/business/business-analyst-101-for-users-who-want-to-get-started-with-business-analyst-in-arcgis-pro/>

# You can create custom variables: Personal Crime Index + Murder Index



# Problem 1

You want to understand how median age varies by state, county, and census tract to plan a new social service or business.

The screenshot displays the Esri Organization interface for the Esri Denver Regional Office. The navigation bar includes Home, Gallery, Map, Scene, Notebook, Groups, Content, and Organization. The Organization page has sub-tabs for Overview, Members, Licenses, Status, and Settings. The Overview tab is active, showing subscription information and a credits dashboard.

**Esri Denver Regional Office** [Edit settings](#)

**Credits** [View status](#) | [Buy credits](#)

Total remaining credits	Last 30 days	Last 24 hours
22,056.37	763.72	25.42

**Last 30 days**

Legend: Storage (Green), Analytics (Blue), Subscriber content (Orange)

Y-axis: 0 to 50

X-axis: Sep 23, 2023 to Oct 23, 2023

**Subscription ID:** 1014149711

**Feature Data Store:** Standard, 1% storage used

**Regional data hosting:** United States

**Services health dashboard:** All systems operational

**Created:** Jul 22, 2011

**Renewal date:** Jul 2, 2024 [Renew subscription](#)

# Problem 2: Bivariate Mapping

The screenshot displays the ArcGIS Business Analyst web application interface. At the top, the navigation bar includes 'Home', 'Maps', 'Reports', 'Autosave' (with a toggle switch), 'USA (Esri 2023)', 'Help', and a user profile for 'Joseph'. Below this is a secondary menu with 'Demo', 'Add data', 'Create maps' (highlighted with a mouse cursor), 'Define areas', 'Run analysis', and 'Share results'. On the left, a 'Color-coded maps' panel is open, showing a list of variables under 'Popular':

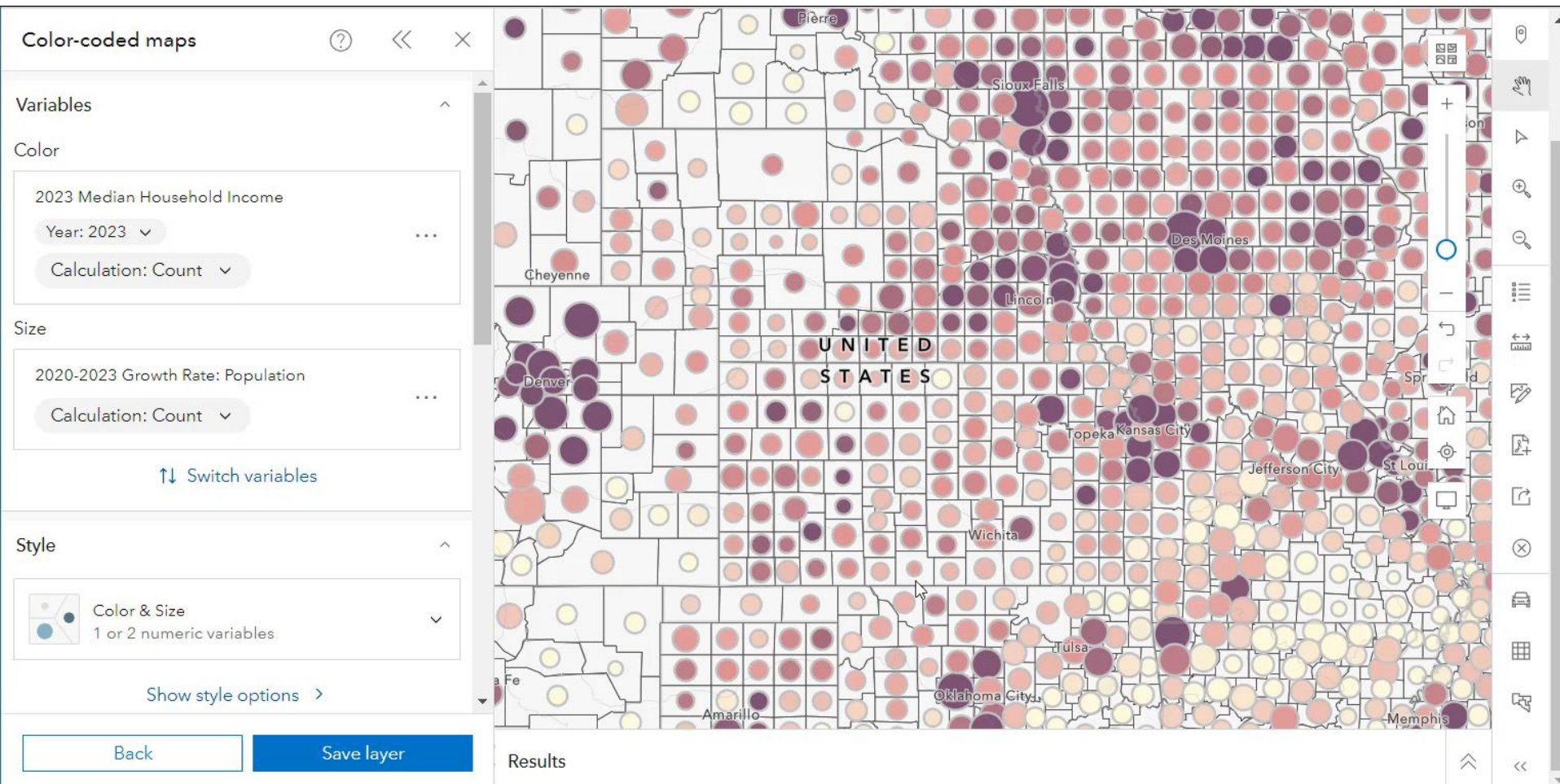
- Total Population
- Median Household Income
- Median Age
- Population Density
- Daytime Population
- Annual Population Growth Rate

A search bar at the bottom of the panel says 'Browse all variables'. The main map area shows a map of North America with city labels: Vancouver, Seattle, Los Angeles, San Francisco, Denver, Houston, Dallas, Atlanta, St. Louis, Chicago, Detroit, Toronto, Montreal, Boston, Philadelphia, New York, and Washington. The map also shows 'CANADA' and 'UNITED STATES' labels. On the right side of the map, there is a vertical toolbar with various map navigation and interaction tools.



# Problem 3: Tapestry Analysis

Behaviors and lifestyles.



# Problem 3a: Multivariate Smart Map Search

The screenshot displays the Esri Smart Map Search interface. At the top, a navigation bar includes a menu icon, a 'Demo' dropdown, and tabs for 'Add data', 'Create maps', 'Define areas', 'Run analysis', and 'Share results'. A search icon is located in the top right corner.

On the left side, a sidebar titled 'Smart map search' contains the following elements:

- A back arrow icon.
- Instructional text: '1. Click on a variable list to map results.'
- Two tabs: 'Popular lists' (selected) and 'My lists'.
- A list of variable lists, each with an icon and a three-line menu icon to its right:
  - Population and Income (4)
  - Population list (3)
  - Income list (3)
  - Housing list (5)
- Text: 'Or build a custom list of variables'
- A button labeled 'Browse all variables'.

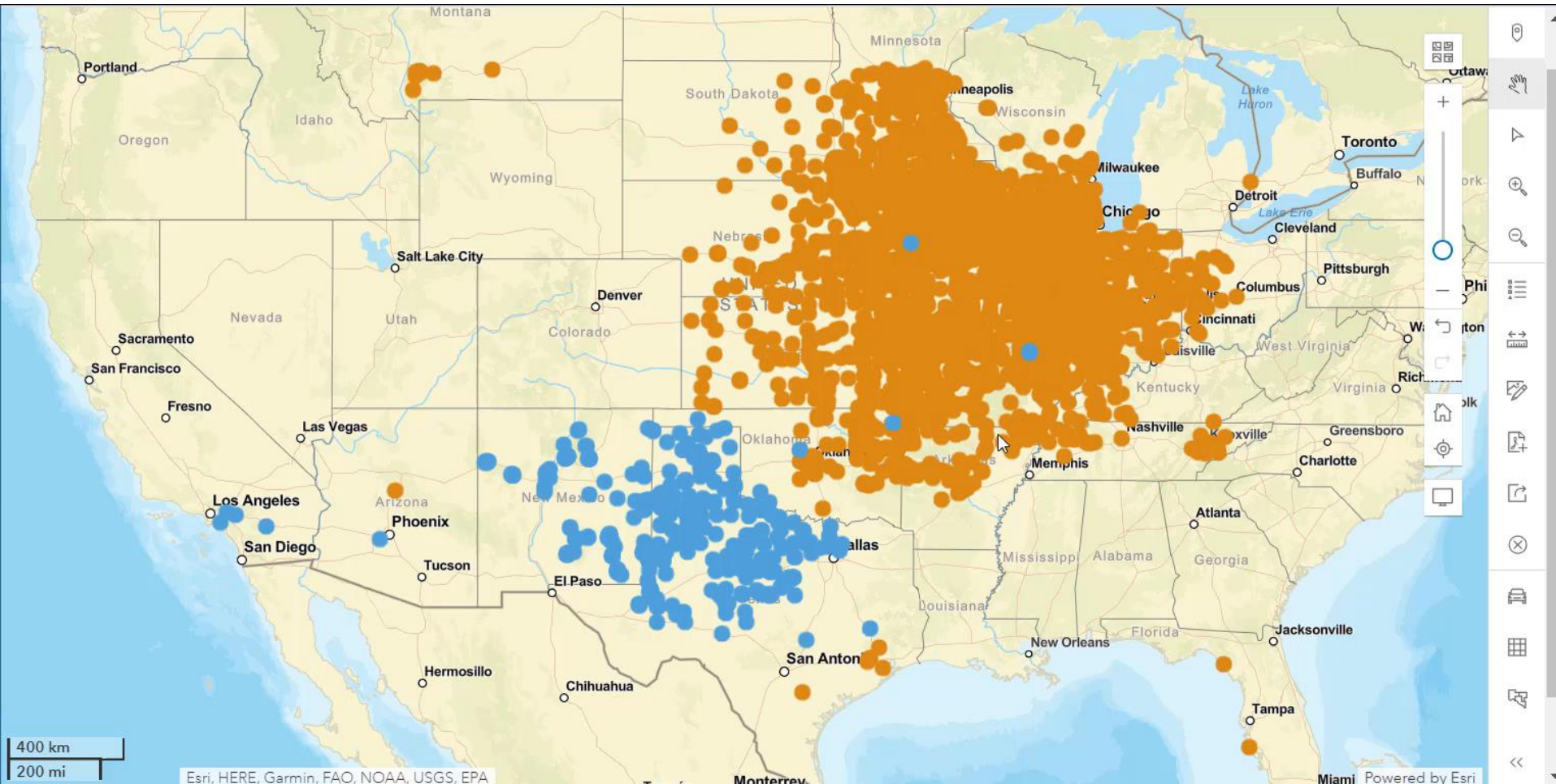
The main area of the interface is a map of the United States. The map shows state boundaries and major cities. A mouse cursor is hovering over the state of Wyoming. On the right side of the map, there is a vertical toolbar with various map navigation and interaction tools, including a zoom slider, a home button, and a full-screen button.



# Problem 4: Regional Convenience Store Patterns

The screenshot displays the Esri ArcGIS Online interface. At the top, a blue navigation bar contains the following tabs: Demo, Add data, Create maps, Define areas, Run analysis, and Share results. A search icon is located on the far right of this bar. Below the navigation bar, the main map area shows a topographic view of the United States. Major regions are labeled: GREAT PLAINS, COLORADO PLATEAU, and APPALACHIAN MOUNTAINS. Individual states and cities are also labeled, including IDAHO, WYOMING, NEBRASKA, IOWA, KANSAS, MISSOURI, KENTUCKY, ARIZONA, NEW MEXICO, TEXAS, OKLAHOMA, ARKANSAS, MISSISSIPPI, ALABAMA, LOUISIANA, and FLORIDA. Major cities such as Salt Lake City, Denver, Kansas City, St. Louis, Chicago, Minneapolis, Las Vegas, Phoenix, Tucson, El Paso, Dallas, Austin, Houston, New Orleans, San Antonio, Monterrey, and Hermosillo are marked with small circles. On the left side, a search panel titled "Points of interest search" is visible. It contains the following elements: a back arrow, a step indicator "1. Choose a category or enter a business name.", a dropdown menu for "Data source" set to "Data Axle", a "Category" dropdown menu, a text input field with the placeholder "Enter business name", a "More options" link, and a blue "Go" button. A vertical toolbar on the right side of the map contains various interactive tools like pan, zoom, and home.

# Problem 5: Site Selection: Convenience Stores



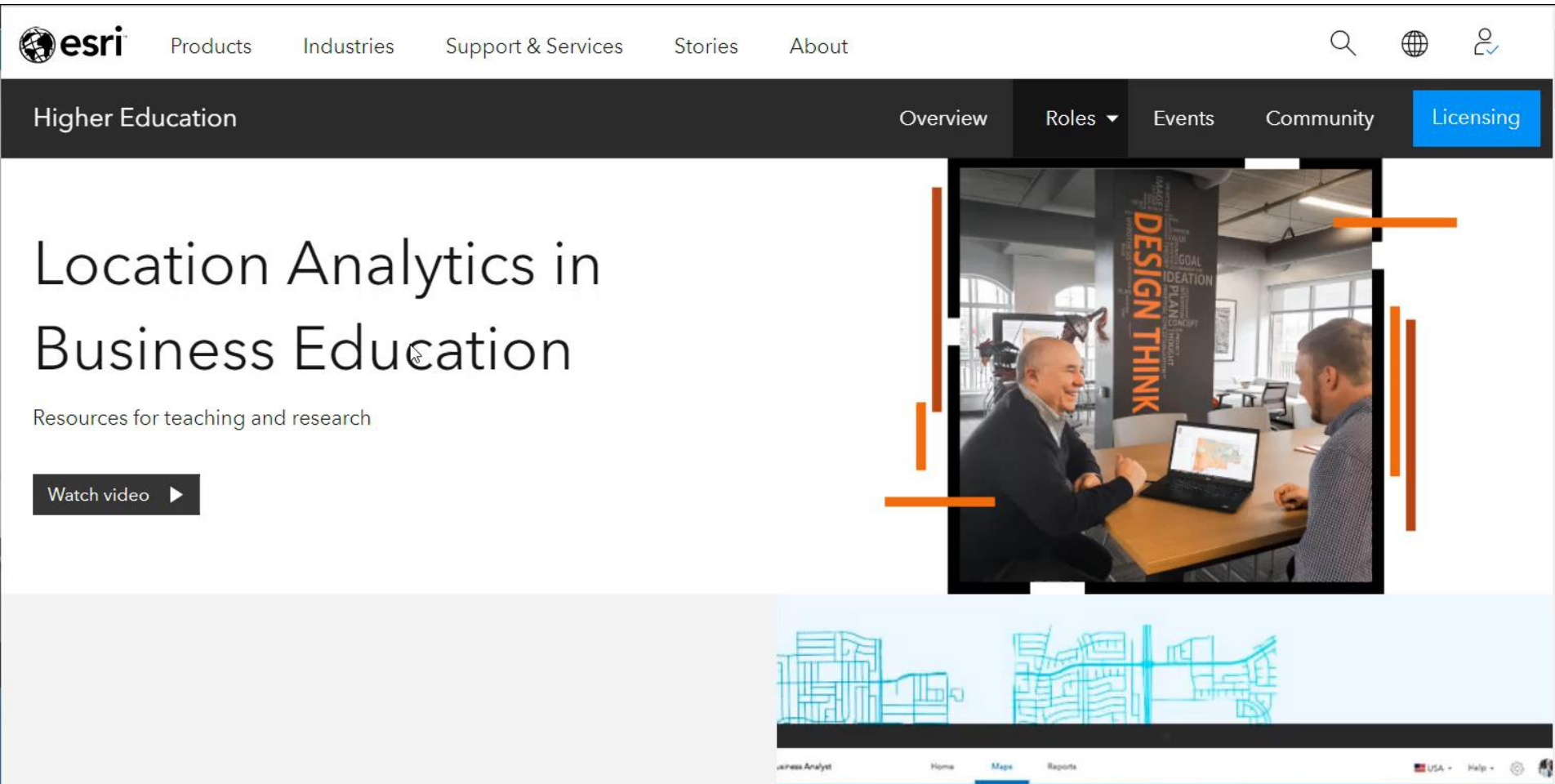
# Problem 6: Share results to ArcGIS Online and ArcGIS Pro

The screenshot displays the ArcGIS interface with a map of the United States. The map is populated with numerous orange and blue circular markers, representing data points. The orange markers are concentrated in the central and eastern parts of the country, while the blue markers are clustered in the western and southern regions. The interface includes a top navigation bar with tabs for 'Add data', 'Create maps', 'Define areas', 'Run analysis', and 'Share results'. A left-hand panel shows a list of projects under the 'Demo' folder, including 'My Polygons', 'Geographies (sites)', 'My Geographies', and 'Other layers'. The 'Other layers' section is expanded, showing 'allsup's' and 'Casey's' as checked items. A 'View full table' link is visible at the bottom of the list.

Name	Date	...
> <input type="checkbox"/> <input type="checkbox"/> My Polygons	11/14/2022	...
> <input checked="" type="checkbox"/> Geographies (sites)		...
> <input type="checkbox"/> <input type="checkbox"/> My Geographies	11/14/2022	...
> <input checked="" type="checkbox"/> Other layers		...
> <input checked="" type="checkbox"/> <input type="checkbox"/> allsup's	10/25/2023	...
> <input checked="" type="checkbox"/> <input type="checkbox"/> Casey's	10/25/2023	...
<input type="checkbox"/> 2023 Engaged in Fundraising...	08/18/2023	...
> <input type="checkbox"/> Previously run reports		...
<input type="checkbox"/> Retail Goods and Services ...	10/25/2023	...



# Problem 7: Analyzing art behavior for Art-O-Mat



The screenshot displays the Esri website's navigation and content for a business education resource. At the top, the Esri logo is on the left, and navigation links for 'Products', 'Industries', 'Support & Services', 'Stories', and 'About' are in the center. On the right, there are icons for search, a globe, and a user profile. Below this is a dark navigation bar with 'Higher Education' on the left and 'Overview', 'Roles', 'Events', 'Community', and 'Licensing' on the right. The main content area features the title 'Location Analytics in Business Education' and the subtitle 'Resources for teaching and research'. A 'Watch video' button is present. To the right is a video player showing two men in a meeting, with a 'DESIGN THINK' poster in the background. Below the video is a blue graphic of a building floor plan. At the bottom of the video player, there is a navigation bar with 'Business Analyst', 'Home', 'Maps', and 'Reports', along with a language selector set to 'USA' and a help icon.

esri Products Industries Support & Services Stories About

Higher Education Overview Roles Events Community Licensing

## Location Analytics in Business Education

Resources for teaching and research

Watch video ▶

DESIGN THINK

Business Analyst Home Maps Reports USA Help

# Problem 8: A lesson in action

The screenshot displays the Esri website's navigation bar with the following items: Products, Industries, Support & Services, Stories, About, a search icon, a globe icon, and a user profile icon. Below the navigation bar, a secondary menu includes Higher Education, Overview, Roles (with a dropdown arrow), Events, Community, and Licensing (highlighted in blue). The main content area features the title "Location Analytics in Business Education" and the subtitle "Resources for teaching and research". A "Watch video" button with a play icon is positioned on the left. On the right, a video player shows two men in a meeting room; one is pointing at a laptop displaying a map. A vertical banner in the background of the video reads "DESIGN THINK" and "GOAL IDEATION PLANS THROUGH". Below the video player, a light blue banner contains a stylized architectural floor plan. At the bottom of the video player, a navigation bar includes "Business Analyst", "Home", "Maps", and "Reports", along with a "USA" flag and a "Help" link.

# Investment Challenge

A brokerage firm wants to target young, high earning individuals who are not currently investing much to advertise their services.

They are interested in neighborhoods in a region where the median age is  $\leq 27$  and income is relatively high ( $> \$75$  K), and where the retirement plan contributions is  $<$  index of 75.

# Ski and Bike Rental Challenge

**Determine the optimal location for bicycle and ski equipment rental facility near Sparta-Elroy Trail, west-central Wisconsin. Import trail from ArcGIS Online. Smart map search – Spending – Bicycle.**

**You can create custom variables: For example: Murder Index + Personal Crimes Index.**

## Notes

The GIS terminology you are familiar with may or may not be used in BAWA and CA. Remember, they were created for the non-GIS specialist and the terms are meant to make sense for that audience.

The current map extent is usually what the analysis or query uses for input.

You can lock the geography level for analysis.

Remember when querying and symbolizing that you are in a web browser. Be sensitive to bandwidth for your end users.



## Data Transfer

**Your results are stored in “My Content”. Sound familiar to ArcGIS Online? Here, “My Content” contains sites, layers, maps, reports, and map legends.**

**You can bring in ArcGIS Online maps to Business Analyst Web App.**

**You can export reports to Excel.**

**You can bring in points and polygons from Excel files and from zipped shapefiles.**

# Continue your journey:

## ◆ Videos: Esri:

<https://mediaspace.esri.com/>

◆ Videos: Joseph Kerski: The videos for this presentation are on a playlist on the following Our Earth channel:

<https://esriurl.com/ouearth>

## Software Documentation:

<https://doc.arcgis.com/en/business-analyst/web/welcome.htm>

## Analyst Tutorials:

<https://www.esri.com/en-us/arcgis/products/arcgis-business-analyst/resources>

<https://www.esri.com/training>



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