

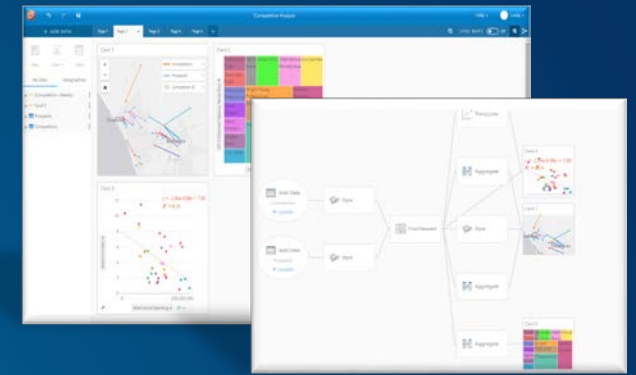
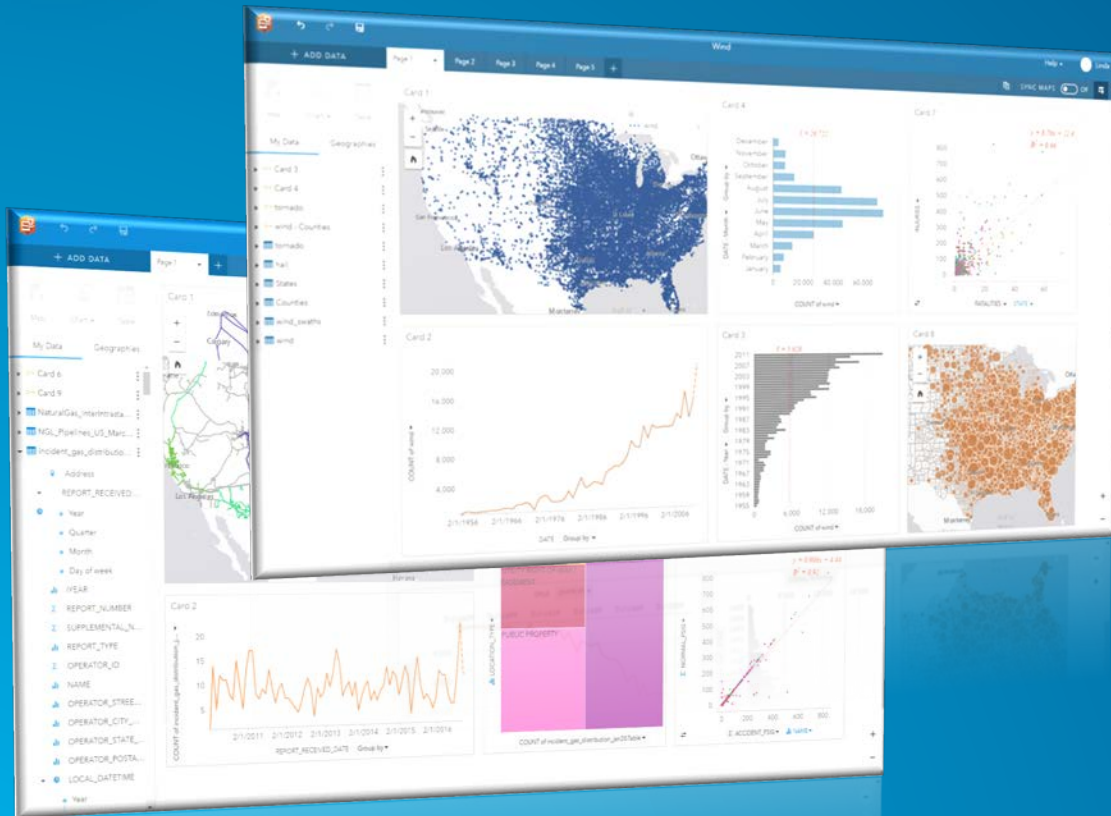
Insights for ArcGIS

Zena Pelletier





Insights for ArcGIS: Explore a new world in your data



- **Discover the power of exploratory analysis**
 - Visual and intuitive
- **Combine Analysis and Visualization on cards**
 - Linked and responsive
- **Drive impactful decisions**
 - Learn, record, share and collaborate

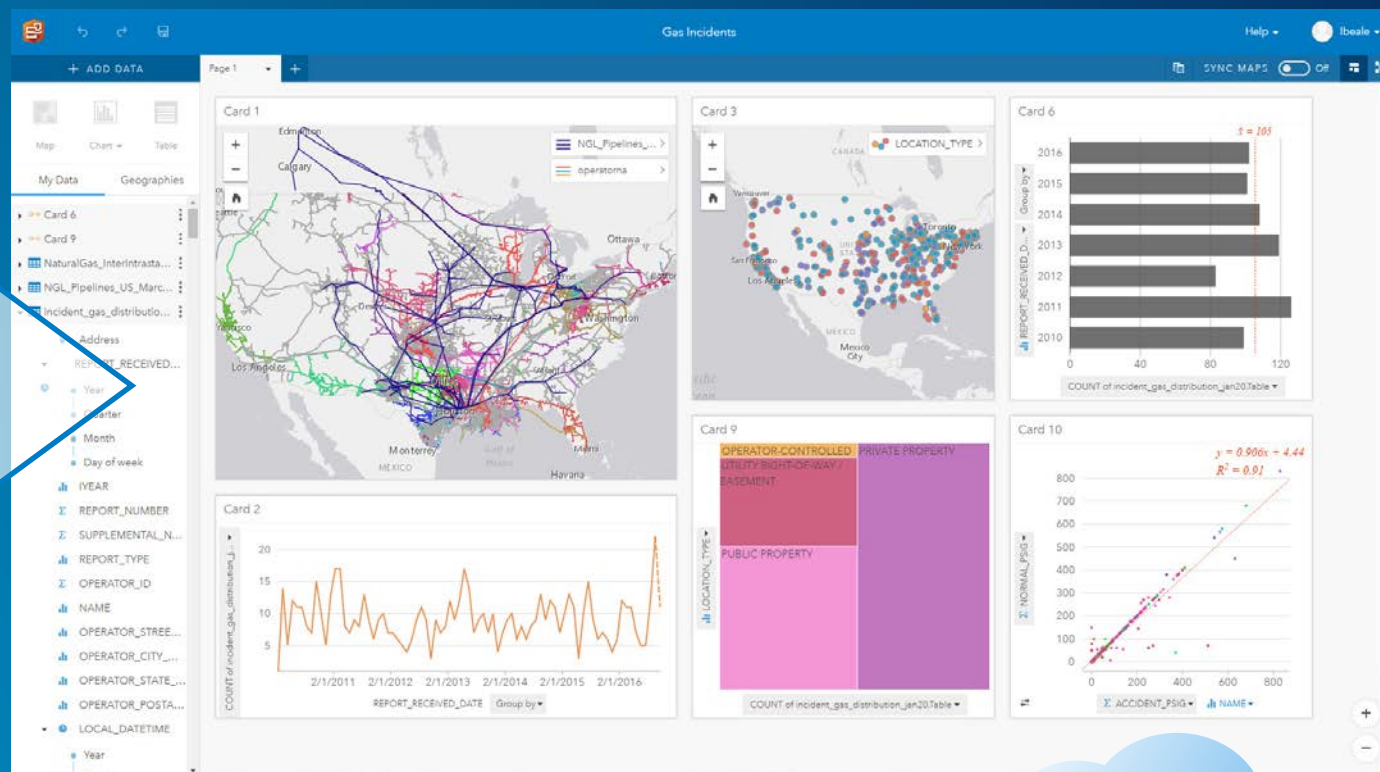
Quickly Increase Decision Confidence with Insights for ArcGIS



Insights for ArcGIS

Data -
*Spatial and
Tabular*

Visualization
& Analysis



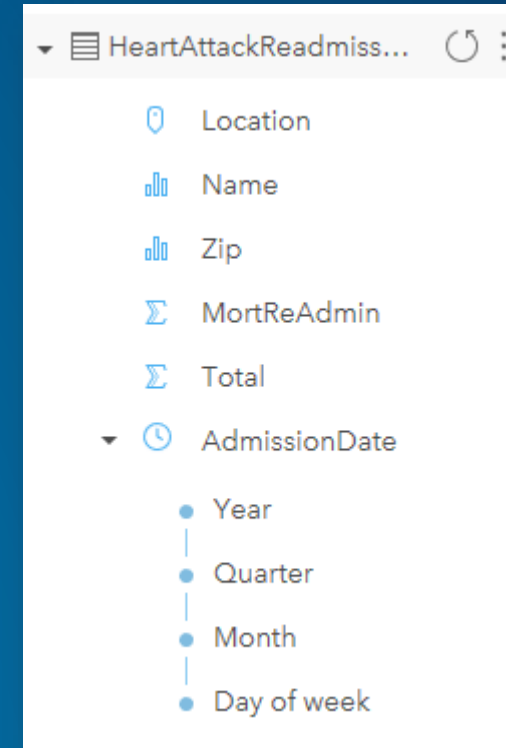
Insights page in ArcGIS



Working with Data – Intelligent defaults

Fields, or attributes are defined to a role

- Insights works directly against the fields
- Dimensional model created behind the scenes
 - Geo-Dimension
 - Temporal-Dimension
 - Categorical (Strings)
 - Quantitative (Numbers)



...roles help define actions that can be taken in Insights for ArcGIS

Relationships

Create Relationships

My Data

- ✓ well_production
- ✓ well_attributes

well_production ×

well_attributes ×

API

Edit Relationship ×

Choose Relationship Type

Relationship type determines the way data is combined.

☒ Intersect ☐ All ☐ Left ☐ Right

Choose Fields

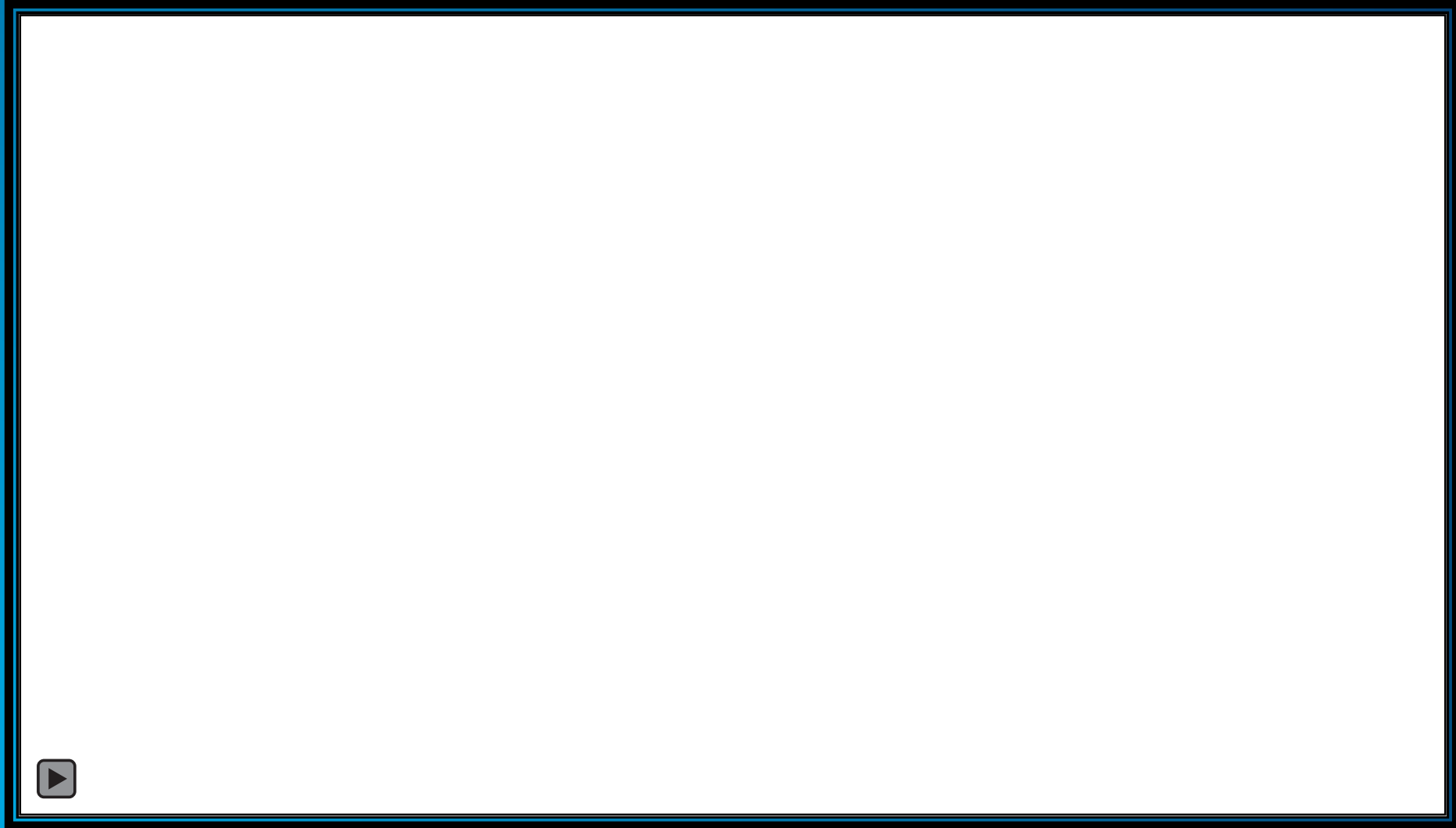
Choose the fields you want to base the relationship on.

API API

+

Cancel Finish

Analysis: Interactivity

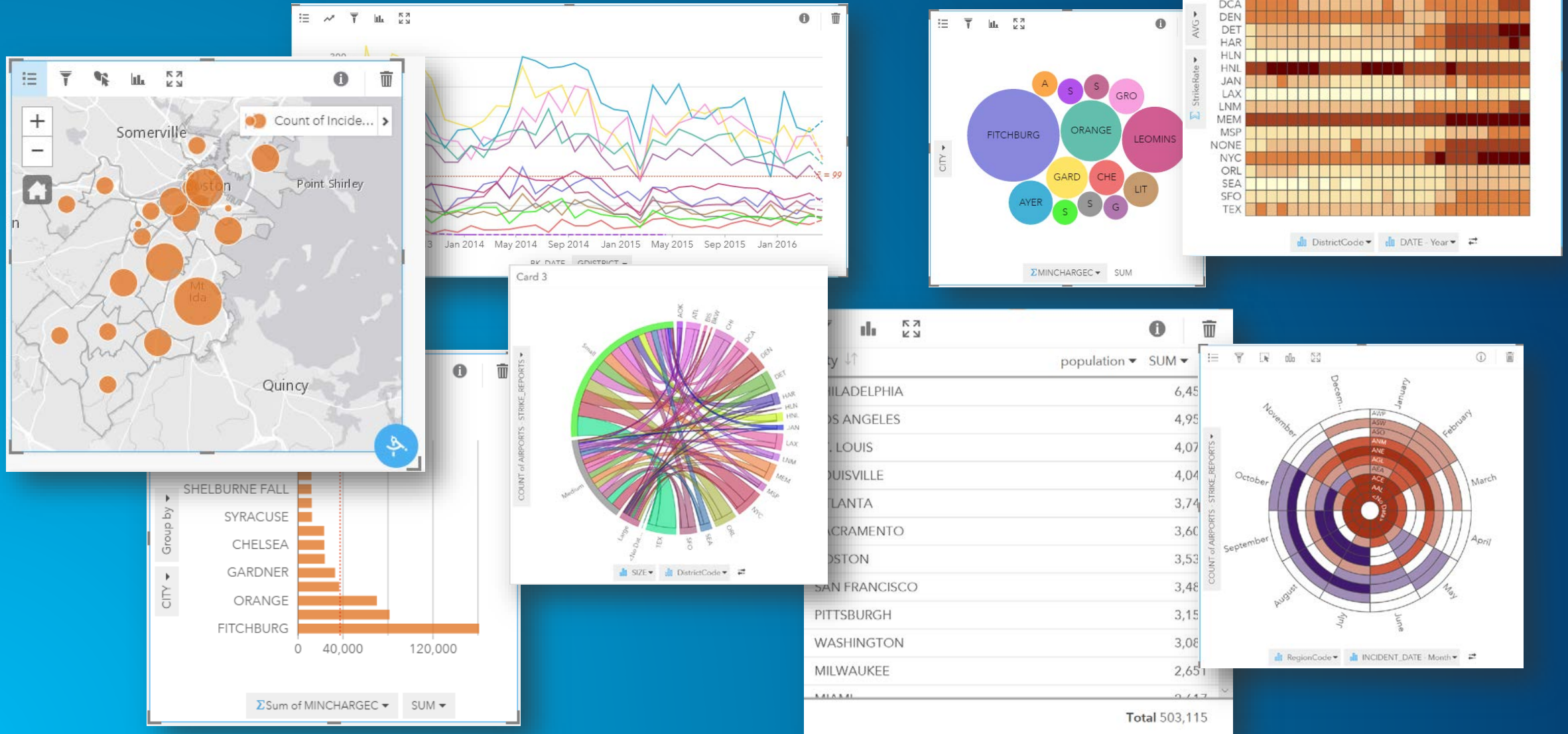


Analysis: Action Button, starts with questions



Results of Analytic Operations are expressed in Cards

Visualizations



Measure: ascertain the size, amount, or degree of (something)



A bar graph uses either horizontal or vertical bars to show comparisons among categories. They are valuable to identify broad differences between categories at a glance.



A treemap shows both the hierarchical data as a proportion of a whole and, the structure of data. The proportion of categories can easily be compared by their size.



Bubble charts represent numerical values of variables by area. With two variables (category and numeric), the circles placed so they are packed together.



A heat chart shows total frequency in a matrix. Values in each cell of the rectangular grid are symbolized into classes.

Relationship: a connection or similarity between two or more things or, the state of being related to something else



A choropleth map allows quantitative values to be mapped by area. They should show normalized values not counts collected over unequal areas or populations.



A chord diagram visualizes the inter-relationships between categories and allows comparison of similarities within a dataset or, between different groups of data.



Scatterplots allow you to look at relationships between two numeric variables with both scales showing quantitative variables. The level of correlation can also be quantified.



Spider lines, also termed desire lines, show paths between origins and destinations. They show connections between places.

Change: process through which something becomes different, often over time



A bar graph uses either horizontal or vertical bars to show comparisons among categories. They are valuable to identify broad differences between categories at a glance.



A heat chart shows total frequency in a matrix. Using a temporal axis values, each cell of the rectangular grid are symbolized into classes over time.



Bubble charts with three numeric variables are multivariate charts that show the relationship between two values while a third value is shown by the circle area.



Graduated symbol maps show a quantitative difference between mapped features by varying symbol size. Data are classified with a symbol assigned to each range.



A Density/heat map calculates spatial concentrations of events or values enabling the distribution to be visualized as a continuous surface.



A Data clock creates a circular chart of temporal data, commonly used to see the number of events at different periods of time.



Line graphs visualize a sequence of continuous numeric values and are used primarily for trends over time. They show overall trends and changes from one value to the next.



A combo chart combines two graphs where they share common information on the x-axis. They allow relationships between two datasets to be shown.

Interaction: flow of information, products or goods between places



A chord diagram visualizes the inter-relationships between categories and allows comparison of similarities within a dataset or, between different groups of data.



Spider lines, also termed desire lines, show paths between origins and destinations. They show connections and flow between places.

Distribution: the arrangement of phenomena, could be numerically or spatially



Histograms show the distribution of a numeric variable. The bar represents the range of the class bin with the height showing the number of data points in the class bin.



A box plot displays data distribution showing the median, upper and lower quartiles, min and max values and, outliers. Distributions between many groups can be compared.



A choropleth map allows quantitative values to be mapped by area. They should show normalized values not counts collected over unequal areas or populations.



Graduated symbol maps show a quantitative difference between mapped features by varying symbol size. Data are classified with a symbol assigned to each range.



A Density/heat map calculates spatial concentrations of events or values enabling the distribution to be visualized as a continuous surface.



A unique symbol map (areas or points) allows descriptive (qualitative) information to be shown by location. Areas have different fills and points can be geometric or pictorial.

Part-to-whole: relative proportions or percentages of categories, showing the relationship between parts and whole



Donut charts are used to show the proportions of categorical data, with the size of each piece representing the proportion of each category.



A treemap shows both the hierarchical data as a proportion of a whole and, the structure of data. The proportion of categories can easily be compared by their size.

Acknowledgement

Inspired by work by Jon Schwabish and Severino Ribeca, The Graphic Continuum, 2014 and, Alan Smith et al. Visual Vocabulary, The Financial Times, 2016

Sharing

- **Workbooks, Pages, Cards, Workflow Templates**
 - Insights Viewer
 - Portal Items
- **Result Datasets as Feature Layers**
- **Insights Pages can be embedded in Story Maps**



Share Page

Title

USA Counties Population

Description

Enter a description for this item

Tags

insights x USA x

Population x

Add tag(s)

Share with:

☒ Everyone (public)

☒ Insights for ArcGIS evaluation

☐ These groups:

No groups available to share with.

Cancel Share



Insights

esri


Workbooks

New workbook

Q Search




All workbooks ▾

Date: Newest ▾



Untitled Workbook
ahaddad


01/16/2017



SHARED

Test SQL Server 2008
tester




01/16/2017



SHARED

Untitled Workbook
tester



01/16/2017



SHARED

RCS Workbook
tester


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SHARED

FL Test SAP HANA Cert
tester



01/16/2017



SHARED

Test SAP HANA
tester

01/14/2017



Demo

How to Get Insights



Online or Enterprise



SaaS
ArcGIS Online

OR



Your Infrastructure
(Physical, Virtual, or Cloud)
ArcGIS Enterprise

Enterprise

- ArcGIS Enterprise 10.5.1 or 10.6
- Base Deployment
 - Portal, GIS Server, Data Store, Web Adaptors
- Recommend minimum 32 GB of RAM
- Download Insights from MyEsri & install



Your Infrastructure
(Physical, Virtual, or Cloud)

ArcGIS Enterprise

Licensing (Enterprise and Online)



- The portal admin must assign licenses

ORGANIZATION

ArcGIS Pro Additional Products

Product	Insights for ArcGIS	Redistricting Online	Drone2Map for ArcGIS	GeoPlanner for ArcGIS	AppStudio for ArcGIS Standard
Licenses	50	50	50	50	50
Available	49	50	50	50	50

Licensed Products for Scott Sandusky (ssandusky)

[-] Esri Applications (Required level)

- ☒ Insights for ArcGIS (2)
- ☐ Redistricting Online (2)
- ☐ Drone2Map for ArcGIS (2)
- ☐ GeoPlanner for ArcGIS
- ☐ AppStudio for ArcGIS Standard (2)
- ☐ ArcGIS Community Analyst (2)
- ☒ Navigator for ArcGIS (2)
- ☐ ArcGIS Business Analyst (2)

☒ Notify member via email

UPDATE REVOKE ALL CANCEL

Licensing



- **Insights for ArcGIS Online**
 - Includes 1,000 credits / license
 - Yearly (term) license
- **Insights for ArcGIS Enterprise**
 - Yearly (term) license OR or perpetual (up front fee for indefinite time)
- **EAs** (enterprise agreements) often include Insights licenses, based EA size. See your account manager for details.
- All Esri **Partners** have Insights licenses.

Licensing



- Level 2 user + Insights license
- Level 1 user = Read only with shared items
- For the ability to create and edit workbooks, Insights requires a level 2 named user plus an Insights license.
- For viewing only, it is available to named ArcGIS users, including Level 1.

Sharing



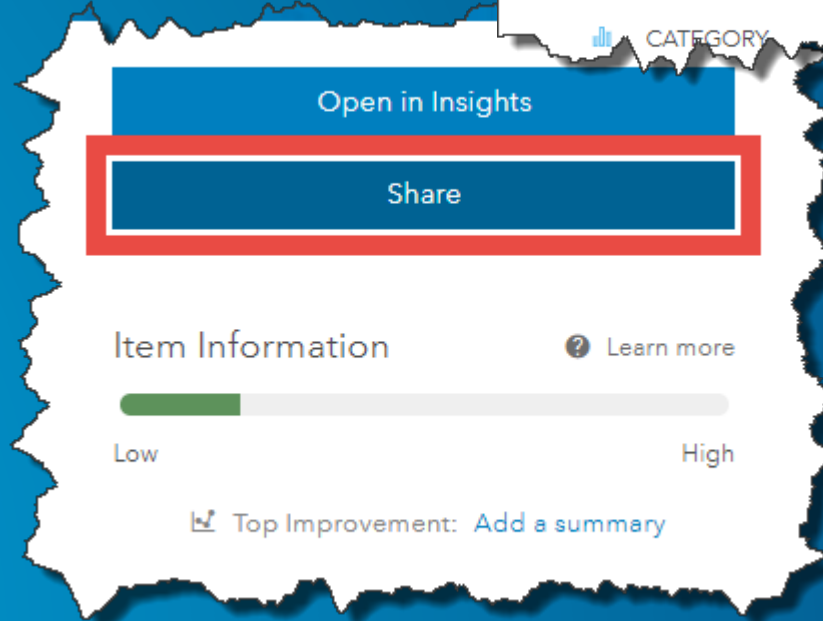
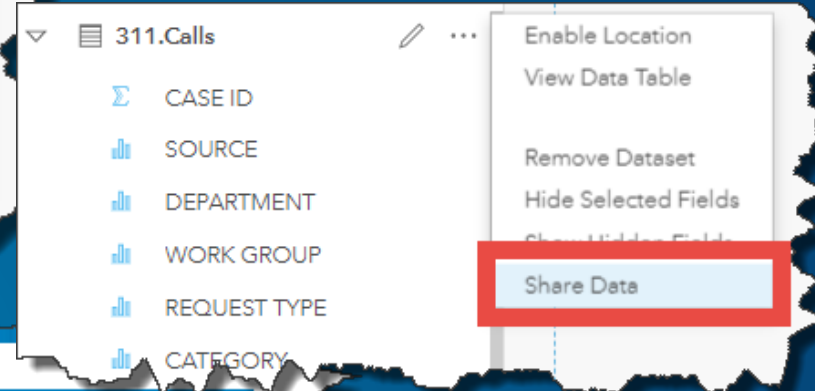
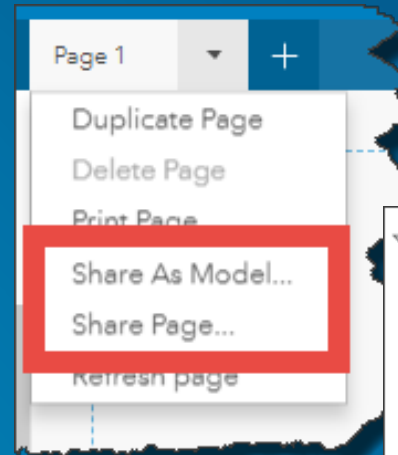
Insights Analyst

Page

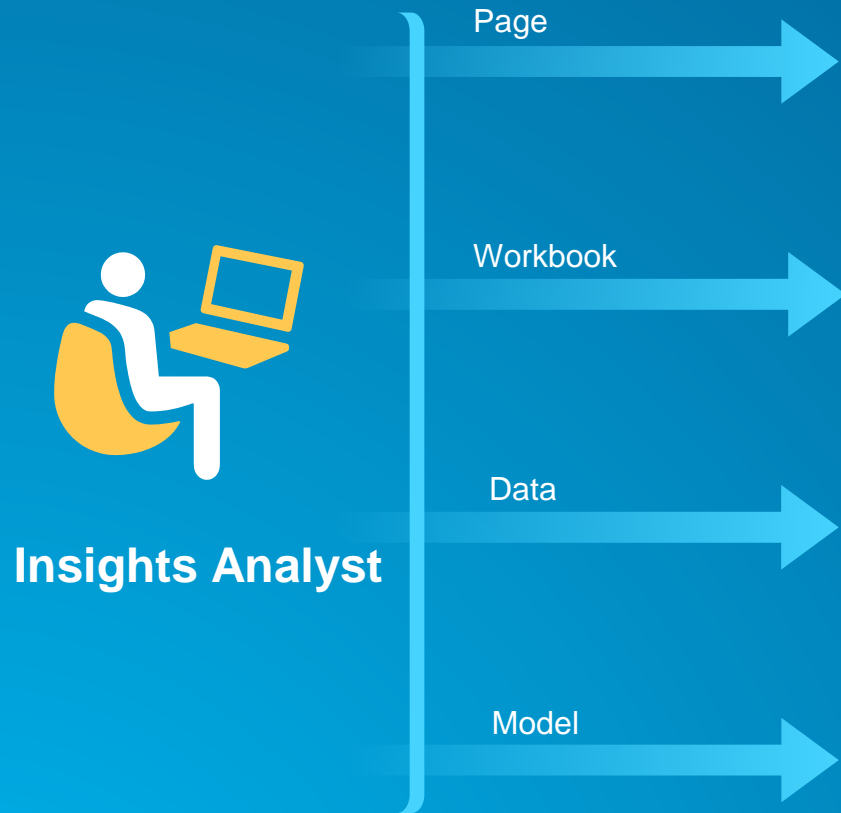
Workbook

Data

Model



Sharing



Insights Analyst

Anonymous access



Public

- View **embedded shared page** within: story map, The Hub, web page
- Access through iframe only

Level 1 user, any role



Viewer

- View **shared page within the Insights viewer** (read only)
- Can not open shared workbook nor shared model

Level 2, publisher role, + Insights license



Analyst

- View shared page **or workbook within the Insights viewer** (read only)
- **Open shared model within Insights**
 - Add data, and re-run analysis
 - Understand documented workflow

**Be sure to share data that the page or model needs.*

**Today, public sharing is only available with Enterprise (not Online).*

**Must be owner of a workbook to open it within Insights and modify it*

**Shared pages and workbooks support interactions of the read-only viewer*

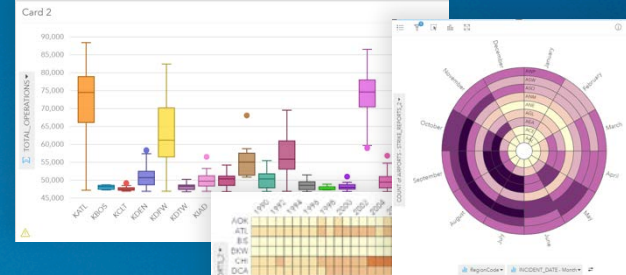
Insights as a capability within ArcGIS



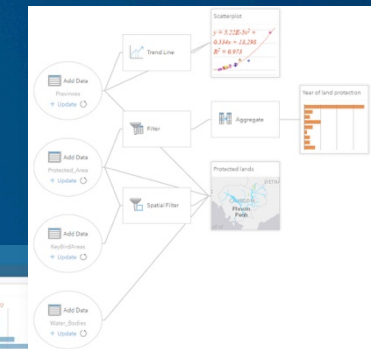
Insights | Data Analytics Powered By Location

- Self-service analysis
- Explore both spatial and non-spatial data
- Find answers, drive impactful decisions

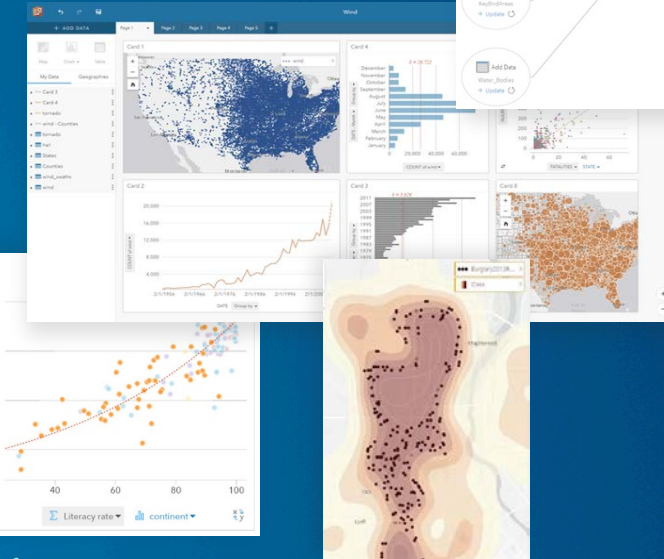
Quickly Breakdown Your Data



Repeat & Share Analysis



Linked & Responsive Cards



Access Data from
Across your Organization

Empower the Analyst



**Now in ArcGIS Online*

Putting Insights to Work



Retail

Analyze patterns in sales performance based on proximity to store and area demographics.



Banking

Conduct deposit, branch performance, and investment analysis by location.



Law Enforcement

Identify crime patterns and manage operational accountability processes.



Petroleum

Perform acreage analysis and manage the portfolio to improve exploration and production.



Health and Human Services

Analyze access to care, model what-if scenarios, and meet community health needs.



Local Government

Look at budget and human resource allocation to identify issues and find efficiencies across different regions.



Electric and Gas

Monitor system and asset performance and mine data from real-time sensors.



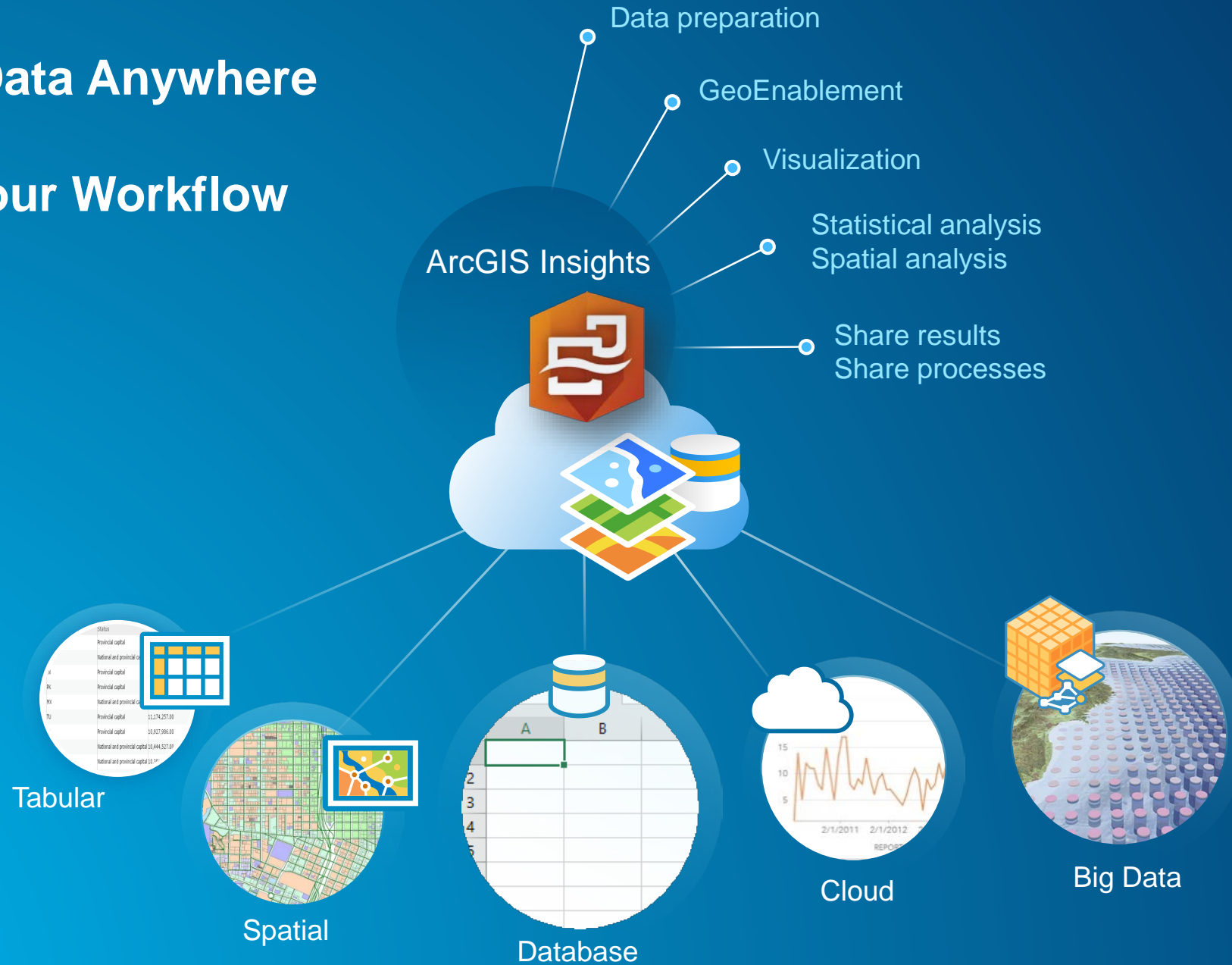
Insurance

Perform portfolio and claims analysis and understand spatial patterns over time.

Access Data Anywhere



Access Data Anywhere & Follow Your Workflow

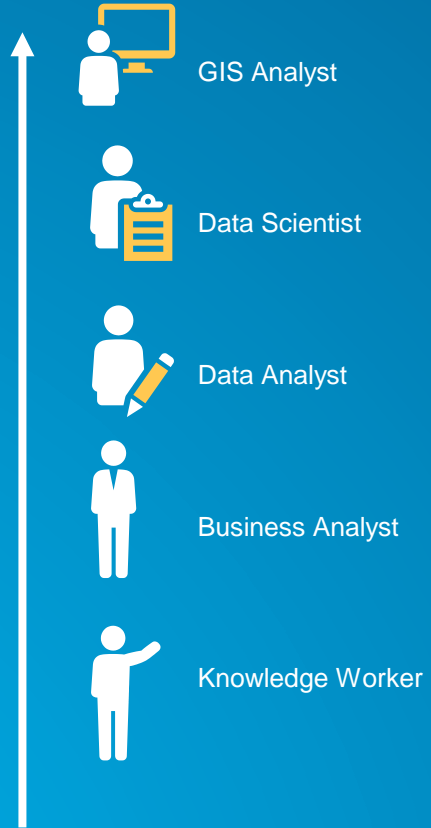


Analytic Workflows, With Deeper Insight



When should I use Insights?

GeoSpatial
Understanding

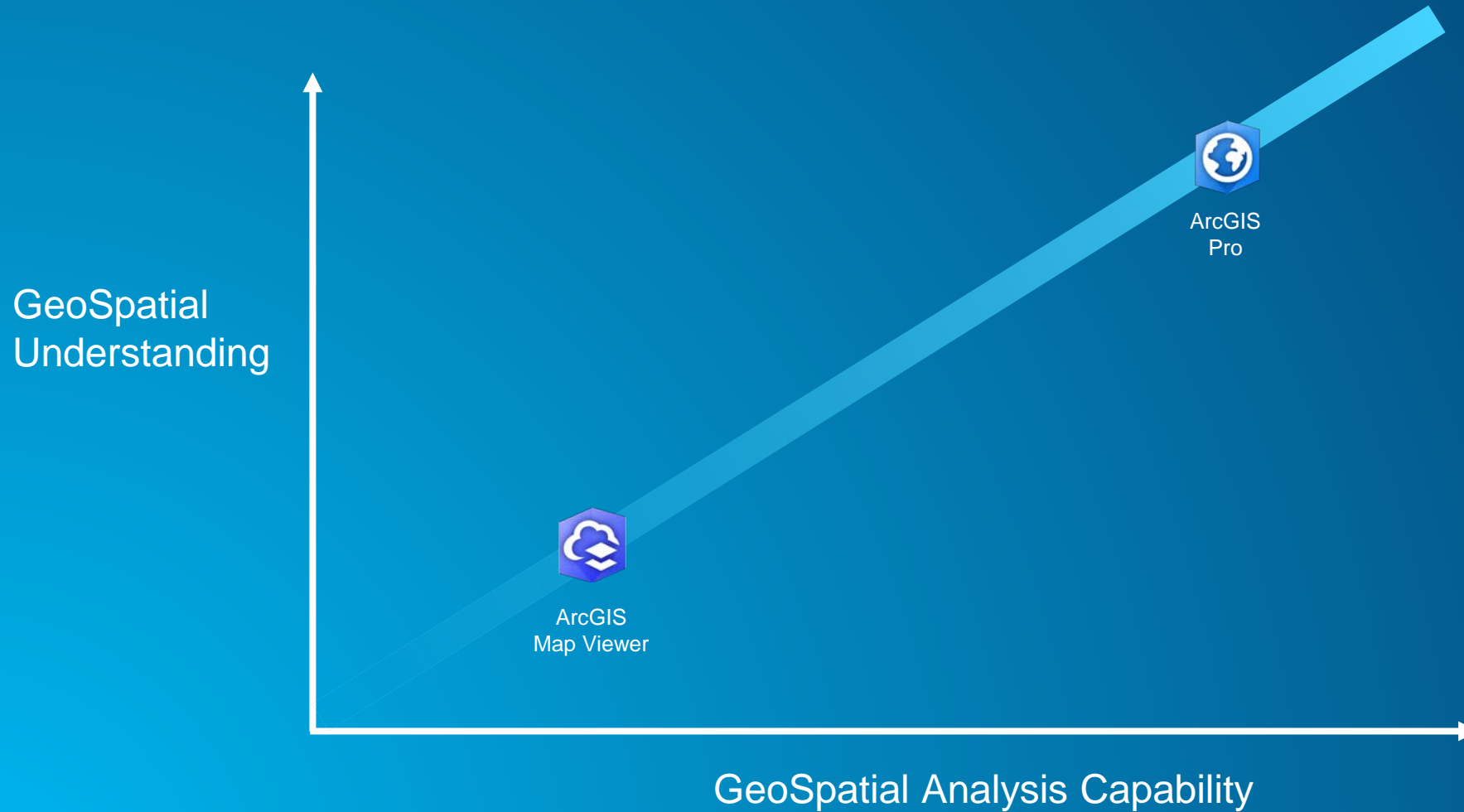


When should I use Insights?



When should I use Insights?

Apps With Purpose



Usable Across Roles and Skill Levels



When to Use What

Apps with a Purpose



Insights
for ArcGIS

- Data **analytics workbench**. Advanced analytics with drag-n-drop tools, minimal clicks. Visual and interactive results, share and re-run analysis.



ArcGIS Business
Analyst

- Specific **guided workflows** for **focused problems** (site selection, market planning, customer targeting...)



Operations
Dashboard
for ArcGIS

- Real-time data. Common **operating picture** for making informed decisions. **Monitor** events, activities, and situations.

Insights Within the Platform

Working Together Across ArcGIS

- **Workflows may benefit from (or require) multiple apps or users**
- **Different skillsets and roles.**



ArcGIS
Pro

- **Preprocess and format data**
- **Perform custom analysis before OR after using Insights**
 - Pro → Insights
 - Insights → Pro



Esri
Story Maps



ArcGIS
Hub

- **Share and distribute analysis results, with context and meaning.**



ArcGIS
Enterprise



ArcGIS
Online

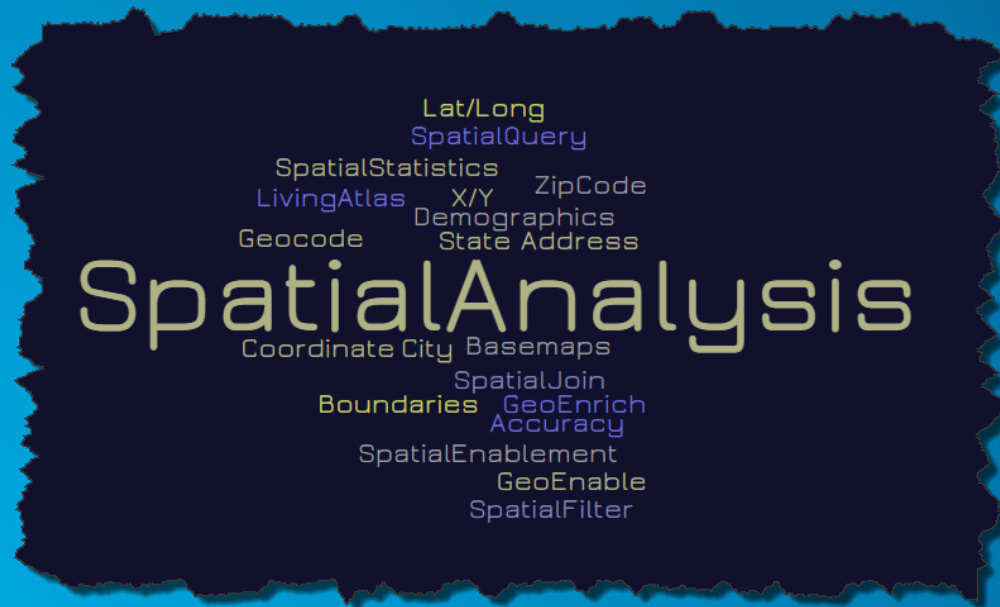
- **Access organizational data that's managed and maintained**

Multiple Apps and Products, Working Together as One

Insights vs. Traditional BI

The “GeoSpecial” Approach to BI

- No other BI tool allows looking at location in this depth
 - Traditional BI limited to points on the map
 - Spatial is a fundamental part of the analysis
 - Context from the world’s largest digital atlas

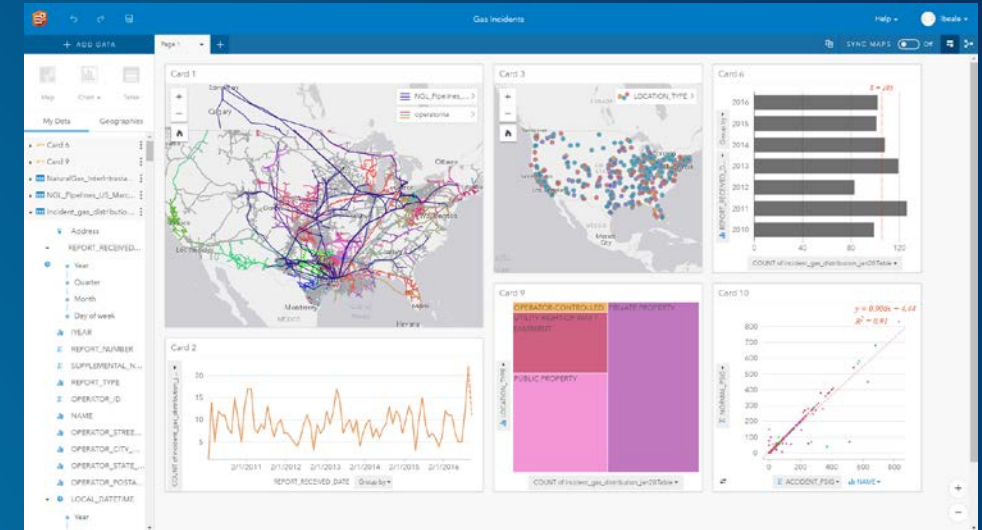


- How is it distributed?
- How is it related?
- What’s nearby?
- How has it changed?

- Share and re-run analysis. Document tradecraft and best practices.

Additional Resources

- Insights for ArcGIS [help documentation](#)
- GeoNet forum: [Insights for ArcGIS](#)
- Free eBook
 - [*Five Tips to Jumpstart Your Spatial Analytics*](#)
- Hands on Learning
 - [Get Started with Insights for ArcGIS](#)





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THE
SCIENCE
OF
WHERE