Data Exploration with Smart Mapping in Online

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Click here to view interactive Prezi online.
Why use smart mapping in your development work?

Smart Mapping allows experts and novices alike to explore and understand their data faster, making better maps with more confidence and less effort.

Attend this session to see how exploring your data in Online not only improves your web maps, but also inspires ideas for custom map styles and custom apps. Learn about the exciting new enhancements behind our ongoing Smart Maps initiative for ArcGIS Online. See how we've re-envisioned mapping through data-driven workflows, intelligent defaults, coordinated styling, automated scale ranges, new thematic renderers, and streamlined interfaces.
Session Overview

-Topics:
  - What is smart mapping?
  - Map **where** and **what**
  - Map **how much**
  - Map **relationships** in your data
  - Make maps when the **data does not exist**

-Discussion, software demonstrations, and Q&A
What is smart mapping?

- Ongoing Work
- Common Problems
- Solutions that developers can leverage
Why??
### Data

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### Analysis and Interpretation

- **User Experience**
  - **The Magic Number!**

![Temperature Scale](image-url)
Smart Mapping

- Data exploration tool to find the magic number.
- Enable people to make brilliant maps quickly and with confidence.
- Simplify the map authoring experience.
- Data driven workflows = the right choices at the right time.
- Bake the expertise into the tools.
The democratization of data visualization
Map where and what
Map "where" - the location of features

Historical Sites in Ireland

Code Violations in Amherst, MA
You don't have to map every dot

Without Clustering

U.S. Fires (1980-2016)

With Clustering
Map "what" - a dimension of features

- Think of your attribute data as **dimensions** and **measures**

- Common **dimensions**:
  - Type
  - Name
  - Class
  - District
  - Territory

<table>
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<tr>
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<td>Total Crashes</td>
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<tr>
<td>Urban Collector</td>
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Map "what" - a dimension of features

Underground Utilities

Miami-Dade Zoning
Review

- When you touch an attribute, the map responds
- The map gives immediate feedback on what’s in your data
- Interesting stories emerge when you show even simple locations on a map
Map how much

The era of the *dumb default* is ending...
Map "how much" - a measure of features

- Think of your attribute data as **dimensions** and **measures**

- Common **measures**:
  - Totals
  - Percentages
  - Rates
  - Averages
  - Medians
  - Ratios

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Map "how much" - a measure of features

Population Clusters in Rio de Janeiro

Elevation around Loowit Trail

Earthquake magnitude around the globe

Collision warnings in New York
Review

- Size, color, and transparency help you emphasize what is important, and de-emphasize what is not important.

- Maps of counts can reveal useful patterns.

- Maps of percentages, rates, ratios, and other normalized data reveal even more.
Map relationships in your data
Map "relationships" - 2 or more attributes

- Forest Change
- Street Safety
- School Enrollment
- Predominant Industry
Review

The following attributes generally work well together in relationship maps:

- A rate and a count
- A dimension and a measure
- Two measures
- Predominance
Map data that does not exist
• **Old way:** add a field, calculate field, handle oddball cases like divide by zero and null values

• **New way:**
  • Do this
  • Be successful
  • Share
  • Transform your data
  • Use logic
  • Handle exceptions
  • Classify your results, or use the raw numbers to make the map
  • Flexible
Mapping data that does not exist...

Population Change

Pre-Kindergarten Enrollment

Code Violation Status

Indiana Energy Pipelines
Review

- Arcade Expressions allow your maps to benefit from a wide variety of data transformations, string manipulations, logic and common sense.
- Showing the age of features within the map helps to quantify how long ago a date or time has occurred.
# What's Next

Learn ArcGIS Lessons: learn.arcgis.com
Training courses: www.esri.com/training
Smart mapping website: www.esri.com/smartmapping

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