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Labeling and Annotation Basics
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Overview

- Define labels & annotation
- Work with labels
- Convert labels to annotation
- Work with annotation
- Questions
Map has variety of textual information

- Descriptive
  - Names, title, legend
- Positional
  - Grids, graticules
- Analytical
  - Charts, tables
- Metadata
  - Disclaimer, data source
- May or may not be feature-based
- Plan for text placement and storage
Feature-based vs. not feature-based text

<table>
<thead>
<tr>
<th>ID</th>
<th>L-Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RSV</td>
</tr>
<tr>
<td>2</td>
<td>RES</td>
</tr>
<tr>
<td>3</td>
<td>AGR</td>
</tr>
</tbody>
</table>

Feature-based

Not feature-based

Landuse

High seepage zone
Feature-based text can be based on:

- Single attribute
  - Franklin
  - Prescott

- Multiple attributes
  - Franklin
    - 14,650
  - Prescott
    - 65,346

<table>
<thead>
<tr>
<th>Name</th>
<th>Pop_2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklin</td>
<td>14,650</td>
</tr>
<tr>
<td>Prescott</td>
<td>65,346</td>
</tr>
<tr>
<td>Leland</td>
<td>37,562</td>
</tr>
</tbody>
</table>
Labels or annotation?

**Labels**
- Dynamic
- Managed as a group
- Linked to a feature
- Layer property
- Stored in map document or layer file

**Annotation**
- Static
- Managed individually
- Stored in map document or in GDB
- Can be a graphic or a feature
- May or may not be linked to a feature
Overview

- Define labels & annotation
- **Work with labels**
- Convert labels to annotation
- Work with annotation
Label management

• Layer Properties dialog
  – Manage labels one layer at a time
Label management

- Labeling toolbar
- Label Manager
  - Manage all labels within the data frame
Label Placement

- Placement properties change depending on type of feature

Point

Line

Polygon
Label field

- Label using any attribute field
- Label from joined tables
Symbols & styles

- Font, size, color
- Bold, underline, italic
- X/Y offset from feature

- Vertical & horizontal alignment
- Uppercase, lowercase
- Shadow, halo, background fill

Predefined symbols

Custom symbols
Point placement

- Predefined scheme
- Directly on point
- Hierarchy of angles
- Based on attribute field

Angles 45 & 225
Line placement

- Orientation
  - Horizontal
  - Parallel
  - Curved
  - Perpendicular

- Position
  - Above line
  - On the line
  - Below line
  - Define offset units

Horizontal on line
Parallel below line
Curved above line, offset
Polygon placement

• Horizontal
• Straight

• Try horizontal first, then straight
Scale range

- Scale at which labels will display

**Zoomed in**

Scale: < 1:2,000,000

**Zoomed out**

Scale: > 1:2,000,000
Label classes

- Label features in same layer differently
  - Define with SQL Query
  - Use existing feature symbol categories

Symbol categories

- Cities
  - FEATURE
    - 250,001 to 500,000
    - 100,001 to 250,000
    - 50,001 to 100,000
    - 10,001 to 50,000
    - less than 10,000
Label classes
Label Summary

- Highlights potential problems in labeling properties
Label Priority & Weight Ranking

- Objects with higher rank or weight will not be obscured
Label with VBScript or Jscript expressions

- **Stack labels**
  
  \[ \text{Replace}([\text{NAME}], \\ " \\ , \ vb\text{NewLine})] \]

- **Round numbers**
  
  \[ \text{Round}([\text{AREA}], \ 1) \]

- **Change case**
  
  \[ \text{UCase}([\text{STREET}]) \]

- **Label multiple field values**
  
  \[ [\text{CITY}] \ & \\ " \ & \ [\text{CNTRY}] \]
Maplex Label Engine

- Advanced high-quality cartographic text placement engine
- Requires Maplex extension
Labeling Demonstration
Overview

- Define labels & annotation
- Work with labels
- **Convert labels to annotation**
- Work with annotation
Set up labels, convert to annotation
Annotation storage - In the map

• Use in a single map document
• Stored as graphics, create and edit with Draw toolbar
• Organized into Annotation Groups
Annotation storage - In a geodatabase

- Use in multiple map documents
- Store additional feature attributes
- Display in ArcMap TOC
- Layer properties you can set
  - Transparency
  - Draw order
- Standard or feature-linked

Appears in ArcCatalog
Catalog Tree with Layer name
Annotation classes

• In GDB, Label class converts to Annotation class
  – No need for multiple annotation FCs
  – Define separate, independent properties
Unplaced annotation

- GDB annotation FC
  - Stored in anno FC

- Map annotation group
  - Stored in map
Overview

- Define labels & annotation
- Work with labels
- Convert labels to annotation
- Work with annotation
Better control over individual text elements

- Want 3 lines, not 4
- Want to move up
- Want to change alignment
Use correct toolbar

- Create new annotation
- Edit existing annotation

Edit map annotation group

Edit GDB annotation FC
Editing geodatabase annotation

- Central location for creating & editing annotation
- Integrated with feature editing environment
  - Use snapping, select by attribute

Enter text for next construction

Feature templates for efficient feature creation

Edit Annotation tool on the main Editor toolbar
Create new annotation

• Choose target
• Add text and construction type
• Click to place
Edit existing annotation

- Choose target or targets
- Change properties or attributes in table
Edit existing annotation

- Choose which feature to follow by pointing to it
- Horizontal, straight, or curved
- Create multiple parts and move individually
Summary

- Labels are dynamically placed text by a label engine
- Labels can be converted to annotation
- Annotation can be stored in the map or geodatabase
- Annotation can be manually edited
Related Presentations

- **Creating Great Labels Using Maplex**
  - Tuesday 3:15pm Room 6F
  - Thursday 1:30pm Room 6F

- **Managing and Editing Annotation**
  - Wednesday 8:30am Room 4
  - Thursday 10:15am Room 6C

- See us at the Mapping and Visualization Island at the ESRI Showcase

- Check out the Esri Press *GIS Tutorial 3: Advanced Workbook*
Questions?

Thank you for attending!

Please fill out the online survey:
www.esri.com/sessionevals