Applying Advanced Symbology and Labeling using ArcGIS Pro

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Overview

- Introduction
  - Different types of text in ArcGIS – role of the Maplex Label Engine
- Position Properties
- Converting Labels to annotation
- Symbology
- Demo – Working with Symbology
- Resources
Advanced Labelling
Types of Text

• What are Labels?
  - Dynamically placed text by a label engine
  - Change of content or map refresh generates new text locations

• What is Annotation?
  - Stored text
  - Editable
Maplex Label Engine

- Advanced high-quality cartographic text placement engine
- Licensing
  - Started as an extension ‘Maplex for ArcGIS’
  - At 10.1 Maplex becomes part of core software
- Labeling Framework
  - Shared with standard label engine
  - Maplex is now the default label engine in ArcGIS Pro
Labeling View of the Contents Pane

- View label classes
- Add, remove or rename a label class
- Copy/paste/reorder is in development
- Multi-select workflow
- Similar to the Label Manager in ArcMap
Labeling Ribbon
Label Priority

Rank your label classes in order of their relative importance on the map

- UI shows all label classes in the map
- Controls the label placement order
- Also serves as the deletion priority for conflict resolution
  - If two labels are in conflict it’s the one that has the higher priority that will win
Feature Weights
Control the label-to-feature overlap on the map

- Maplex weighting is based on values from 0 – 1000
  - zero weight allows full overlap
  - Range 1 to 999 is the main ranking
    - Tip: use the whole range to get the best results
  - 1000 is a special value – it represents a set of barrier features
- Polygons also have a boundary weight

Label Weight Ranking
Weights let you control which labels will be placed when there are potential conflicts (overlaps) between features and labels. The feature weights are in the range 0 to 1000.
Label Class Pane

- The details
  - Label Expression
  - SQL Query
  - Visibility Range
  - Text Symbol
  - Placement properties
- Launch from:
  - Ribbon
  - Context menu on the feature layer
Contour Placement
Where you categorize a line as a terrain feature with height attribute

- Contour placement style
  - Page or Uphill alignment
  - Label laddering

Street Placement
Where you categorize a line as a street feature at large map scales

- Different placement methods
  - label is placed inside a cased symbol (European style)
  - label is offset from the line symbol (North American style)
Point Label Positioning

- Default positioning is best position
  - Control over which zone is preferred
  - Cartographic preference often top right
  - Zone grid (1-8 preference, 0 to block)

- Fixed positions
  - Centered on the point
  - Cardinal positions around the point
Polygon Label Positioning

- Placement methods
  - Centered or offset
  - Various orientations (horz, straight, curved)

- Feature Types
  - Regular placement
  - Land parcel placement
    - *only useful if you have building footprints*
  - River placement
  - Boundary placement
Labelling Demo

- Boundary labels
- Point labels
- Line labels
- Contour labels
Converting Labels To Annotation
New at Pro 2.0

- Convert Labels to Annotation GP tool
  - WYSIWYG conversion
  - Converts all labels in map to annotation
  - Unplaced labels written as annotation to the database
  - Standalone or feature-linked annotation
Advanced Symbology
Symbolization

- Symbols graphically describe, categorize, or rank geographic features

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<th>Visual variable</th>
<th>Point</th>
<th>Linear</th>
<th>Areal</th>
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<td><img src="image" alt="Perspective height Areal" /></td>
</tr>
</tbody>
</table>

- Orientation
- Shape
- Arrangement
- Value
Symbolize feature layers

- Symbolize feature layers in different ways
  - Single symbol
  - Unique values—Apply a different symbol to each category of features within the layer based on one or more fields.
  - Graduated colors—Show qualitative differences in feature values with a range of colors.
  - Graduated symbols—Show qualitative differences in feature values with varying symbol sizes.
  - Unclassed colors—Show qualitative differences in feature values with a range of colors not broken into discrete classes.
  - Heat Map—Draw the density of points as a continuous color gradient.
symbol layers

- **Marker symbol layers**
  - Components of symbols that draw a specific shape
    - Shape marker symbol layers
    - Picture marker symbol layers
    - 3D model marker symbol layers
    - Procedural marker symbol layers
    - Marker symbol layer properties
Using Symbols in ArcGIS Pro
Resources